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BALTIMORE, NOVEMBER 19, 1897.

Cleanliness and Quarantine.

With the approach of the time for the assembling of Congress the demand for national quarantine legislation is gathering greater force in the South. It should develop sufficient strength to place upon the federal statute-books provisions that shall prevent a repetition of the spectacle of incompetency, panic and recrimination presented in this year's experience. In the meantime, however, Southern communities can render valuable service to themselves and the country by instituting and maintaining such systems of sanitation that the dread of a visitation of yellow fever may become a constantly diminishing quantity, whether or not provision is made for a national quarantine. When an epidemic is threatened it is customary for authorities to resort to strenuous efforts to remove the filth upon which disease is fed. When the danger has passed there is too often a relaxation of these efforts.

A radical change of policy in this respect is required. Municipal authorities should make it a matter of prime importance to make their cities clean, and to keep them clean. This is a plain, practical question. In it is involved no suggestion of an opportunity for indulgence in metaphysical disquisitions about State sovereignty, in criticism of the services of the Marine Hospital force or in hints about some mysterious power that may be exerted against Southern ports. It deals only with local dirt and the removal thereof; the economy in keeping a city clean at all times rather than in waiting until the approach of disease compels extraordinary exertions for the removal of accumulated filth. We have urged from time to time that our Southern cities and towns should give more attention to sanitation as a means of adding to their attractiveness. That is a practical purpose. Even more practical does it become when the relations of the city to the trade and commerce of its section and of the whole country are considered.

Advice Hoary With Age.

From time to time the South is subjected to advice from Northern sources, ostensibly disinterested, on the subject of its cotton manufacturing industry. Here is a proposition to secure national legislation for the regulation of hours of labor in the mills, of course for the exclusive benefit of Southern operatives, if one could only suppress the natural operation of his reasoning power. There is the contention that the labor of the South is not sufficiently skilled to produce fine cottons. Our Southern exchanges are quoting from a New York editorial discouraging the building of small mills, because they might conflict with large ones. The editorial mentions a number of large mills in the South and says:

The mills named are but a few of the most successful ones in the South, and yet any profitable results are the outcome of the employment of the greatest economies, and even then they are not to the expectations of those directing them. There are those engaged in the selling of cloth and yarn who do not hesitate to sanction any proposition by projectors for factories of small capacity. It is a mistake for capitalists, no matter how small the contemplated investments, to listen to such advice. It is better to consult the larger mills, with which competition will be the sharpest. Whatever they advise will be the truth, no matter whether it is agreeable or otherwise. For the present, however, the production of cotton goods of all descriptions is sufficient to meet all demands and return small, if any profits, and those who construct small mills in opposition to such a statement are not doing for others as they would be done by.

It was quite a clever conception to confine the discussion to Southern mills, but that does not prevent the careful observer from discerning the real purpose under the guise of philanthropy.

It does not require a long memory to reach the time when such philanthropy as this was first displayed. Between 1848 and 1852 there was a sudden spurt by the South as a cotton manufacturer. Referring to this phase of the industry the Dry Goods Reporter said in 1850:

The competition from this quarter is every way calculated to diminish the old margin between the cost of raw material and that of fabrics; therefore, those old concerns which have reached the minimum margin at which they could work, must shut up shop and give place to more competent operators.

This was from a Northern publication, but Mr. A. A. Lawrence, of Massachusetts, did not apparently agree with such a view. At that time he was writing articles for Hunt's Merchants' Magazine, of New York, in the effort to dissuade his Southern brethren from embarking upon such a perilous enterprise as the manufacture of cotton. His argument was that there was a radical defect in steam power in the South; that it had not the necessary labor, skill or spare capital; that the capacity of cotton machines then in operation was nearly or quite equal to the demand for cotton cloth and the capacity for production, and that

the cotton planters were making more money by producing cotton than they could make by manufacturing it. Hamilton Smith, of Kentucky, but of Northern birth, answered this argument by the use of facts. For cotton mills in the South were being operated at a profit.

Another answer came from Charles T. James, of Rhode Island, who not only manufactured machinery, but also took stock in Southern mills. He wrote in 1850:

Perhaps Mr. Lawrence wishes to persuade the cotton planter—to promote the planter's interest, no doubt—not to hazard his capital in the manufacturing business with its small and diminishing profits, while the profits of cotton planting were large and scarcely lessened in fifteen years, or, perhaps, as we subsequently have a few pretty plain hints, to embark his capital at the North to aid in upbuilding Northern manufacturing cities in progress or in embryo, or to arrest the fall of certain mills by purchasing their stocks, already 40 per cent below par. Such may have been the case. Let others judge. It may be otherwise, but his frequent croakings about the hazards, the disasters, the failures, and at best the small profits of the manufacturing business, seem mightily like a squinting toward the object of restraining the Southern people from entering into competition with those of the North, or that failing, to persuade them to embark their funds on board the new Northern ship Lawrence or some other craft belonging to the same firm. Thus, with honeyed words and abundant, fraternal sympathy, he exhorts "our friends" of the South, in effect, either not to enter the manufacturing field at all, or, if they should, to invest their funds in Northern mills. The substance is, they must pay freight and expenses on their own cotton to Lowell, and on their cloth back again, and leave at the North all the wealth created by labor with the use of that capital to build up Northern towns and cities equaling, once in ten years at least, the amount of capital invested, with the exception of 8 9-10 per cent. per annum, or its amount in the way of dividends! How kind! How considerate!

Mr. James was somewhat sarcastic, but he was writing in reply to allegations of selfishness on his part. The point to be noted is that there has been no change in half a century in the line of policy pursued in some quarters against the South as a cotton manufacturing field. The immediate object may have changed. In fact, the spectacle of New England capital investing in cotton mills in the South, and being welcomed there, gives us a clue. Advice to the South against manufacturing fine grades, based upon statements similar to those employed when it had begun to demonstrate its ability to compete with New England in coarse fabrics, is intended principally for the benefit of the North. It is as vain as it was fifty years ago. Had it not been for the war, which was calculated to render the South incapable of competing with New England in any line, the cotton industry of the South would have been in a more advanced stage than it now is, but the events of the past ten or twelve years are a sufficient answer to any argument short of force against the South as a cotton manufacturer.

Such advice is hoary with age. It has been discredited time and again.

Those who cling to it are on the wrong track. They should join in the movement which increases every year the consumption by Southern mills of the Southern product.

Value of the Rich.

In an address at the opening of the D. O. Mills Model Home for poor men in New York Hon. Abram S. Hewitt, talking to the subject of millionaires as benefactors, cited the case of Sir Henry Bessemer as an illustration. He said:

Mr. Bessemer is worth, perhaps, \$10,000,000. That, of course, is away above the average of individual acquirement, but it is only a small part of the wealth which Mr. Bessemer's invention has conferred upon man, directly and indirectly. I think it a conservative estimate to put the money value of Bessemer's contribution to the world at large at not less than \$1,000,000,000. A railroad man like Mr. Depew can appreciate the vast saving which this single invention of steel-making has brought about.

The process invented by Mr. Bessemer, which reduced by 500 per cent. the cost of making steel, made the millions for the inventor, and rightly, too; but, at the same time, the whole world was much more the gainer.

Discontent is not prone usually to take this view of wealth. It forgets that the living of a large mass of humanity is dependent upon the existence of aggregated capital, with its opportunities for economic administration of great enterprises; that in the nature of things it is impossible for everybody to be an employer, and that brains and brawn are just as much capital as cash and credit.

A little careful consideration of a few elementary facts in connection with the project of Mr. Mills should convince the reasonable man that millionaires are after all of some value to society, even though they may be comparatively scarce.

The Armor-Plate Plant.

Southerners are not the only persons who favor the plan of building the government armor-plate plant in the South should Congress authorize such an undertaking. The Stove and Hardware Reporter, of New York, says:

The location of a government armor-plate plant in the South would only be a righteous recognition of the Southern States' claim to some of the many favors that have heretofore been so lavishly thrown around in the North. The pronounced excellence of Alabama iron has been proven over and over again, and the government armor-plate board could hardly do better than locate the projected plant in the South.

This is good enough as far as it goes. But the South and its Northern friends must not be content with asserting self-evident facts. They must unite in favor of a particular locality, sinking local pride in the general welfare, and then use every legitimate effort to impress their views upon Congress.

On another page is an article by Mr. Edwin Lehman Johnson setting forth

the history and status of the agricultural and mechanical colleges of the South. This is the second of a series of articles which Mr. Johnson is writing for the encouragement of those institutions of which the South is in need. The order of the day is technical education for Southern boys, and Mr. Johnson, like many others, seems to favor a greater development of what he terms the "manufactural" side of the colleges already in existence. He promises to give in a third article the results of his observations in these institutions.

Money for Education.

Citizens of the South who may be hesitating about the advisability of appropriating money for the development of the usefulness of institutions of learning will find much food for thought in the enthusiasm of the people of California for their State University. In a recent number of Harper's Weekly two pages were devoted to an illustrated article descriptive of the plans for making that institution co-extensive with the State. The author, Samuel E. Moffett, said:

The university long ago outgrew the idea of localization in a single neighborhood. It is at home now wherever the laws of California are obeyed. It has its schools of art, law, medicine, dentistry, veterinary science and pharmacy in San Francisco, where it is about to add a technical school; its great Lick Observatory is on Mount Hamilton, seventy miles away, and it has forestry and agricultural experiment stations scattered up and down the State for a distance of 600 miles. It is absorbing one department after another of the State's scientific work. It has secured practical control of the entire system of secondary education in California, which it has brought up in a few years from a state of chaos to a general level of efficiency unequalled in some respects in the Union, and it is steadily extending its influence in the field of primary education. It is no extravagant dream, but merely a reasonable expectation, to look forward to the time in the near future when the University of California, with branches in every section of the State, all working to a common end under a single wise control, shall educate scores of thousands of students in its own halls, and shall secure to every child, from the kindergarten upward, the best training that the age is capable of giving. In that time, with the entire educational system of a mighty State co-ordinated into one harmonious organism, the palaces of the new city of learning on the Berkeley hills will be the fitting crown of the whole—the visible symbol of the sovereignty of mind.

There is a decided basis for such anticipations. The university has resources capitalized at \$8,000,000 and an annual income of \$300,000, not including receipts from its professional schools in San Francisco. But that is not enough, and in response to a demand that the buildings of the central institution should typify its broad purposes millionaires became rivals for permission to pay for buildings, private gifts already promised amount to \$7,000,000, and the State has appropriated the proceeds for ten years of an annual tax of \$75,000.

The public spirit thus revealed is worthy of emulation elsewhere. The South has shared but little in the donations of public lands by the general government for education beyond the legislation for agricultural and mechanical colleges. It has been hampered by the necessities of thirty years, while a section has had to be rebuilt from ruins. It has done wonderfully, though, notably in expenditures for a race which contributes little directly to the tax fund. Yet it can do more.

Hundreds of men, natives of Southern States, who started life anew at the close of the war have succeeded

in other localities better than was possible under the old regime. Others have acquired wealth in the South. These should not only loosen their own purse-strings in aid of Southern colleges, but they should also encourage a public sentiment that will be liberal in legislation. A century ago Thomas Jefferson labored for the upbuilding in Virginia of a system which is being evolved in greater detail in California. He was only successful in part, but his idea was correct, and the South can do no wrong in seeking to make it practical even at this late day.

The South in New York.

Though in some quarters there is a bearish feeling regarding the South, New York is an index of hopefulness for that section. For several months Southern securities have been steadily appreciating. The increase in quotations has included railroad stocks and bonds as well as municipal, county and State guarantees. Many a Southern bond bringing as low as 4 per cent. interest cannot be purchased for speculation or investment except at a high premium. The increased earnings of Southern railroads, especially those which are hauling Western products to the seaboard for export, are being watched with eager attention. The dry-goods trade is an excellent indication of the condition of Southern merchants. For an extended period they have been making light purchases, going cautiously in the matter of accumulating stocks of goods. As a result, New York jobbers say that six months ago the shelves of many a Southern store were almost bare. The series of trade excursions inaugurated by the Board of Trade brought a number of buyers to the city, but this movement was only temporary, and a reaction followed. Within the last two weeks, however, the merchants in the Metropolis have been surprised at the increase in orders from their traveling representatives and direct by mail from the Southern tradespeople.

A Large Power Plant.

The foundation for the power-house located on the Yadkin river, near Winston, N. C., has been laid, and it is expected that the plant will be in operation by February 1. The company, which has \$150,000 capital, expects to develop 5000 horse-power in all. At present the power will be obtained from a plant representing 2500 horse-power, which will be obtained from eight turbine wheels. The location, it is stated, is one of the most desirable in the South for a power-house, and the company calculates to furnish both power and light to Winston and Salem. The building is to be three stories in height, to be constructed of brick and granite. Among those interested are H. E. Fries, of Winston, and S. Morgan Smith, of York, Pa.

Exports from Norfolk.

According to a report recently compiled by the Chamber of Commerce of Norfolk, Va., the value of exports for the nine months ending September 30 from that port was \$11,048,676, a gain of \$4,451,895, or over 40 per cent. Among the notable increases in the exports are lumber, which showed a gain of 16,785,242 feet, and of shingles, which show a gain of 6,995,710,000, or over 25 per cent. of the total quantity exported last year. While there has been a general increase in grain shipments, it is noticeable that the exports in meat were also very large, being an increase of 10 per cent. over the preceding year.

TO MAKE MANUFACTURERS.

The Agricultural and Mechanical Colleges of the South.

[Written for the Manufacturers' Record.]

In an article under the heading of "Southern Boys and Southern Factories," in the Manufacturers' Record of October 8, I sought to show, in view of the fact that the South is rapidly becoming a manufacturing section, that our Southern boys ought, in largely-increased numbers, to prepare themselves by technical education both to help this movement in Southern manufactures along and to take advantage of the many opportunities for profitable employment which are so rapidly opening up to them.

I further called attention to the fact that there was at least one college in every Southern State expressly designed to give our Southern boys just this sort of education. These colleges are part of a national system, a sort of college confederacy, embracing every State and Territory in the Union, fostered and in part supported and supervised by the United States government. Owing to the support of government and State, and to private munificence, the cost of an education in one of these colleges to the student who earns nothing during his course need not exceed \$100 per annum, while the cost to a bright and active student, owing to the many opportunities offered for earning money, may be entirely covered by his earnings.

These colleges are variously called land grant colleges, institutes of technology, colleges of agriculture and mechanic arts, and sometimes, though unfortunately, simply agricultural colleges. In the South the abbreviation A. and M. college has been growing in favor. Because it sets one who hears it to questioning, because of its brevity and because I shall always construe the M. to mean manufacturing (which ought to be as good a word as agricultural), I shall give my preference decidedly to this title.

Being very well aware that the general public know but little of these colleges, of their splendid equipment, the peculiar relations they sustain to the United States government, and still less know how to appreciate them, I promised, when I wrote the former article, with the editor's consent, to give the readers of the Manufacturers' Record some account of these colleges, more particularly in the South. This article is in fulfillment of that promise.

A Historical Review.

A most interesting and instructive account is given of the origin and progress of the movement by which these colleges were started by Dr. A. C. True in the year book of the United States Department of Agriculture for 1894, to which I am indebted for many of the facts in this article.

Dr. True says: "In December, 1861, Justin S. Morrill, then a member of the House of Representatives, and now a venerable senator from the State of Vermont, introduced in the House of Representatives his amended bill, which bestowed 30,000 acres of land for each member of Congress upon the several States for the establishment of colleges 'to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life,' and May 2, 1862, Benjamin Wade, of Ohio, introduced a similar bill in the Senate. On May 29 the bill was reported adversely in the

House by the Committee on public lands, but was passed by the Senate June 10, and nine days later by the House. President Lincoln made the bill a law by affixing his signature July 2, 1862, the very day when McClellan's army began its retreat from the Peninsula after the bloody battle of Malvern Hill. Amid the national gloom which succeeded the failure of the Union's greatest army to take the capital of the Confederacy, few paid any attention to the gift of over 11,000,000 acres to promote the arts and industries of peace. It is a significant fact that in the amended bill it was provided that every institution receiving the benefits of the land grant should provide for the military training of its students.

"The total fund received from this land grant amounts to about \$9,500,000, and about 1,200,000 acres still remain to be sold. The language of the act was broad, and easily admits of diverse interpretation. It was not the intention to establish agricultural colleges only, but rather institutions 'for the liberal and practical education . . . in the several pursuits and professions of life.'

"The convention of delegates of agricultural colleges which met at Washington in 1883 discussed and indorsed the project for the establishment of agricultural experiment stations in connection with the colleges by appropriations from the national treasury, in accordance with the terms of a bill already introduced in the House of Representatives by C. C. Carpenter, of Iowa. At the next session of Congress the experiment-station enterprise was again called to the attention of the House of Representatives by the bill which was introduced by William H. Hatch, of Missouri, and referred to the committee on agriculture. This committee made a favorable report March 3, 1886, and nearly a year later the bill was passed by Congress, and was approved by President Cleveland March 2, 1887.

"The Hatch act provides that \$15,000 a year shall be given out of the funds proceeding from the sale of public lands to each State and Territory for the establishment of an agricultural experiment station, which must be a department of the land grant college, except in the case of those States which had established experiment stations as separate institutions prior to the passage of the act.

"As the organization of the land grant colleges proceeded and the system of technical education in agriculture and other industries was elaborated it seemed to Mr. Morrill and other friends of industrial education that the income derived from the land grant funds, even when supplemented by liberal contributions from the States and other sources, was inadequate to the demands of modern collegiate instruction in such lines. Mr. Morrill, therefore, began to formulate plans to secure additional aid for these institutions from the national treasury. Meanwhile the subject of Federal aid to the common schools throughout the Union was agitated, mainly through the debate which went on for years in Congress and in the country over the propositions of Mr. Blair, of New Hampshire, to extend such aid on the basis of the relative illiteracy in the several States. When it became evident that a general measure of this kind

would not receive the sanction of Congress, Mr. Morrill introduced a bill to provide for the further endowment of the land grant colleges, and this was passed and received the approval of President Harrison August 30, 1890. The second Morrill act provides that there shall be annually appropriated to each State and Territory, out of the funds arising from the sale of public lands, for the more complete endowment and maintenance of colleges for the benefit of agriculture and the mechanic arts established under the act of 1862, the sum of \$15,000 for the year ending June 30, 1890, and an annual increase of the amount of such appropriation for ten years thereafter by an additional sum of \$1000 over the preceding year, and that then the amount shall continue at \$25,000."

In thirteen States the grant was made over to the universities or colleges already existing. In twenty-five States the fund has served as the chief source of endowment for new institutions, or as the nucleus around which have collected additional funds, in several cases far exceeding the amount derived from the national grant. In six States the grant has been divided. Certain of the schools have developed particularly in the direction of the mechanical arts; others are agricultural colleges, pure and simple; a few combine both departments, with large provision for theoretic instruction, while some differ in no essential particular from the ordinary classical college.

From the foregoing historical sketch it appears that while the destructive forces of war were devastating our Southland provision was actually made by a Federal Congress for the establishment of a sisterhood of colleges, which was not only to offer us of the South substantial assistance and a strong incentive to recuperate our shattered and undeveloped resources, but which has also done much and will do far more to bring closer together our once divided States. It may yet come to pass that Northern and Western parents will send their sons to our Southern A. and M. colleges as a preliminary step to location and investment in the South. It is certain that all such will receive a double welcome from a genial climate and a genial people.

The birthday of the A. and M. colleges was one in which was recorded the greatest triumph which the Southern soldier ever achieved. These colleges will help us to conquer the peaceful invasion from the North and West which is soon to come, and this time we will not send them skurrying back across the Potomac faster than they came. We will do more than permit them to remain as welcome colonists. We will make them bone of our bone and flesh of our flesh. Perhaps, too, this glorious birthday is an omen that we shall achieve an industrial victory which shall not invite to subsequent defeat, but which shall be perpetual, and in whose benefits North, East, South and West shall share.

High Purpose of the Colleges.

Let us see in what spirit these colleges are run and whether they are calculated to fill the high mission for which they were designed. I cannot do better than quote from an admirable address by one of the ablest of the presidents of our Southern A. and M. colleges—H. C. White, of Georgia—delivered before the tenth annual convention of these colleges in Washington in 1896. Let me remark in passing that the high calibre of our Southern colleges was shown by the selection of the president of one of them—Dr. Charles W. Dabney, Jr., president of the Tennessee College—to be Assistant Secretary of Agriculture under the

last administration. President White says in his address: "If, as we believe, the proper, acceptable and successful prosecution of the great industrial pursuits—agriculture, the mechanic arts and other—demand an education and a degree of culture (both 'liberal' and 'practical') no whit less thorough and no lower in order than is required for engagement in other pursuits, we should take care that nothing which we set forth in the curricula of our colleges shall be a confession of the weakness of our faith or be capable of construction into an admission that our education develops less able thinkers, less worthy men, less competent leaders of their fellows, or leads to less honorable or dignified pursuits than that which is furnished by other collegiate institutions. We should never forget that our colleges are one important fruit of the memorable conflict, actively begun a half century ago and waged and won within our generation, between science and dogma for the recognition of the study of the physical sciences as a legitimate and necessary factor in genuine education. They were born of this conflict, the victory in which was a triumph of modern enlightenment over ancient narrowness, a decision that new elements should be introduced into our educative processes, not to supplant, but to re-enforce the old, that the two together might contribute to the formation of a completer man.

"One thing, however, I think should constantly be borne in mind in the conduct of this, the truly educational work of the colleges. In teaching the 'branches of learning related to agriculture and the mechanic arts' we should make it clearly appear that they are so related. In the liberal culture given by study of the masterpieces of our English tongue, for example, selections might readily and profusely be made to show that correct speaking and writing, a pleasing style of composition and expression, adherence to the rules of rhetoric,

ability requisite to cope successfully with their fellows in the intellectual struggles of life, or else they fail of their purpose, become a laughing-stock of scholars and a hurt rather than a blessing to the community. In no other way, in my judgment, can our colleges serve the great purpose for which they were founded—to make of the industrial pursuits intellectual occupations to be engaged in by educated men. In fine, while it is not necessary, nor is it proper, that we should erect our colleges into unreasoning partisans of the industrial arts as in antagonism with other pursuits, yet we should make manifest to our students, by illustrations drawn therefrom in our educative processes, by the teachings of history and by exhibition of their proper and legitimate fruits, that through them lies a path to usefulness and happiness at least equal in stability and dignity to those offered by other occupations or professions."

This admirable exposition of the aims and high purpose of the A. and M. colleges ought to be kept ringing in the ears of the youth of the South by the many able editors who conduct our trade journals and newspapers until the halls of these colleges are filled to overflowing; until our manufacturers and planters realize that there is a new order of college-bred men—men who have been taught to work with their hands, which is the literal translation of manufacture, and not, as of old, merely to write and speak and preach and pray—men who have had a truly valuable and helpful scientific education, and one which will give more life to the factory and the farm.

A Summary View.

Let us take a bird's-eye view of the A. and M. colleges. I have carefully prepared from Circular No. 35, of the United States Department of Agriculture, some interesting statistics of the Southern A. and M. colleges, and they are given in the following table:

Location, State and Postoffice.	A. & M. College Established.	Teachers (faculty)	Students in Preparatory classes.	Students in College classes.	Graduates 1896.	Average age of graduates.	Value of grounds and farms.	Value of plant, buildings, machinery, apparatus and library.	Income.	U. S. appropriation for Experiment Station.	Volumes in library.
Alabama (Auburn).....	1872	27	33	266	42	20 1/2	\$25,000	\$206,300	\$43,265	\$15,000	18,757
Arkansas (Fayetteville).....	1873	31	124	191	22	22 1/2	9,600	279,000	51,872	15,000	12,106
Florida (Lake City).....	1884	18	51	13	22	7,600	55,800	29,588	15,000	4,675	
Georgia (Athens).....	1872	21	....	152	17	21	15,000	175,000	30,969	15,000	35,390
Kentucky (Lexington).....	1880	18	....	179	17	20	275,000	188,000	64,217	15,000	2,888
Louisiana (Baton Rouge).....	1887	20	126	125	17	19	21,350	275,000	52,887	15,000	18,800
Mississippi (Agricultural Col.).....	1880	26	111	177	17	20	57,700	203,900	55,278	15,000	11,331
N. Carolina (West Raleigh).....	1889	20	23	207	18	23	19,500	74,600	42,897	15,000	2,300
S. Carolina (Clemson College).....	1893	25	172	141	37	20	26,280	249,000	62,916	15,000	1,500
Tennessee (Knoxville).....	1869	23	....	183	29	22	106,300	283,400	55,129	15,000	24,948
Texas (College Station).....	1871	22	....	353	21	20 1/2	48,300	347,100	81,753	15,000	7,800
Virginia (Blacksburg).....	1873	27	35	302	25	22	30,000	201,500	64,863	15,000	3,350
General average and totals...	1878	278	673	2393	270	21	\$641,630	\$2,487,500	\$635,129	\$180,000	143,795

and even, perhaps, a touch of the breath of poetic inspiration are as becoming and necessary in one who speaks and writes of the industrial occupations of the people as of him who declaims of their rights and liberties on the stump or discusses

The following table gives the names and addresses of the several presidents of these colleges, and I know that any one of them will gladly give any detailed information about his college to anyone who asks it:

President.	Name of College.	Postoffice.	State.
W. L. Brown	State Agricultural and Mechanical College.....	Auburn.....	Ala.
J. L. Buchanan	Arkansas Industrial University.....	Fayetteville.....	Ark.
O. Clute	Florida Agricultural College.....	Lake City.....	Fla.
H. C. White	Georgia State College of Agriculture and Mechanic Arts.....	Athens.....	Ga.
J. K. Patterson	Agricultural and Mechanical College of Kentucky.....	Lexington.....	Ky.
T. D. Boyd	Louisiana State University and Agricultural and Mechanical College.....	Baton Rouge.....	La.
S. D. Lee	Mississippi Agricultural and Mechanical College.....	Agricultural College.....	Miss.
A. Q. Holladay....	The North Carolina College of Agricultural and Mechanical Arts.....	West Raleigh.....	N. C.
H. S. Hartzog....	The Clemson Agricultural College.....	Clemson College.....	S. C.
C. W. Dabney, Jr.	University of Tennessee.....	Knoxville.....	Tenn.
L. S. Ross	Agricultural and Mechanical College of Texas.....	College Station.....	Texas.
J. M. McBryde ...	Virginia Polytechnic Institute.....	Blacksburg.....	Va.

their political problems in the columns of the press.

"Our colleges must give such good, genuine, broad education to their students as will equip them with the men-

ings, plant and apparatus of nearly two

and one-half millions, and their income of over eight hundred thousand dollars, in a dozen articles. I shall not attempt now to go into further details or to comment on the significant facts which the above figures show, but, if this important subject is deemed of sufficient interest, I shall give in a final article the results of my own knowledge and personal experience with these institutions. I trust that what has already been laid before the readers of the Manufacturers' Record will induce some of them to make a personal investigation of one or the other of these institutions. Any one of them is more than worth the trouble, for such a visit is bound to be both pleasurable and profitable, and the visitor cannot help feeling, in going away, prouder of his own State and more sanguine of the industrial future of the South.

EDWIN LEHMAN JOHNSON.
Fort Hill, S. C.

IN HEALTHY ACTIVITY.

Situation of the Iron and Steel Industry at Birmingham.

[Special Cor. Manufacturers' Record.]

Birmingham, Ala., November 16. The iron market has undergone no change since last report. It is just jogging along, with only moderate inquiry and light transactions. The furnace interests are as confident as ever that the situation strongly favors an advancing market when the demand commences. Quotations are unchanged on the basis of \$6.75 for gray forge and \$7.75 for No. 2 foundry, with the intermediate grades at the usual differences. Some warrant iron can yet be had at \$6.40 for gray forge, and some No. 3 foundry has been on the market at \$6.85, with \$6.75 bid. But there is no pressure to sell warrant iron, and it now cannot be called an important factor in prices. Shipments still continue large. Grades are very unevenly divided in the stocks of furnaces. One interest may be sold for 1897 on No. 2 foundry to full ability to deliver and another may be similarly situated as to the soft and other grades. Under such circumstances some irregularity in prices may be expected. The movement for export is very fair, but all on account of old business. The business the past week was only moderate, aggregating about 5000 tons.

The directors of the Sloss Iron & Steel Co. held a meeting here last week and perfected plans to develop the brown-ore fields at Leeds. An understanding with the Southern Railway was arrived at and a spur of the road will be put in to make the ore fields available. This will put the Sloss Company, so far as cheapness of ore is concerned, on a level with the most favored. As they will develop the ore themselves, it is figured by parties familiar with cost of that kind of work, that the ore can be delivered at furnace at a maximum price not exceeding sixty cents per ton, with probability of fifty cents per ton being the cost. But few interests, if any, can have any advantage there.

The life injected into business by the raising of the quarantine is illustrated by the sudden and greatly increased activity of the railroads, arising from release of detained cars. In one day last week the Louisville & Nashville Railroad handled 2800 freight cars here on their main line and mineral belt. With this release of cars came a large and importunate demand for coal, indicating that business was jumping at the prospect for an active movement. It has sent new life into the arteries of trade and confidence has regained the seat usurped by despondency.

Through the president of the Colbert

Iron Co. at Sheffield it is learned that one of their two stacks is in blast and turning out 275 tons daily, mainly of No. 2 foundry and the soft grades. The output will be increased to 300 tons, and will be doubled with the advent, in January, of the second stack in blast. Their sales for delivery, including February, approximate 30,000 tons, and the prices current are on the basis of \$7.75, Birmingham, for No. 2 foundry. They report furnace stocks very light.

The rolling mills, if activity is any sign of good business, are enjoying prosperity. The report circulated in Western papers that the workmen brought here from the West were dissatisfied and would return, if not prevented by the quarantine, impels the statement that of the 125 men brought here all are at work but ten, who were discharged because they did not fulfill the requirements of the management. As fast as those employed can make arrangements to do so they are preparing to bring their families here. This completely refutes the assertion of dissatisfaction. It could have originated only through jealousy of this district and to prejudice workmen against coming here. There has been no time when quarantine regulations prevented one from leaving here for the North or West.

The Birmingham Fertilizer Co. has now been at work long enough to be running smoothly and report a ready market for their output, which consists of acid phosphates, dissolved bone and bone meal and ammoniated fertilizers. The combined annual production is 18,000 tons. The average list of employees is 125. The extent of the works is readily appreciated when one considers that the milling and storage building is 600 feet long, 100 feet wide and seventy-five feet high, while the sulphuric acid plant is 375 feet long, 100 feet wide and seventy-five feet high. They are importers of potash salts and nitrate of soda. This is one of the enterprises launched here within the year and asking no financial aid from anyone here. As the president, Mr. Louis Cohen, is engaged in the banking business, besides being one of the largest dealers in fertilizers in Georgia, it is not improbable that the works erected here may be but the nucleus around which will grow various others of equal or greater importance.

Among the minor industries the past week was full of encouragement for prospective work. From the sugar country some estimates were asked on work and cost for machinery for cotton ginning and compressing was asked. A large order connected with the kiln-drying of lumber is being executed at Fulton's Boiler Works and will be shipped to Louisiana, Texas and Arkansas. From other parts of the country inquiries are coming for estimates on various kinds of work, and everything indicates for them an increased activity. As the most of them are pretty well up on their work, they are in good condition to figure close on offered work and land it on their own ground.

J. M. K.

Takings of Cotton.

Mr. Henry G. Hester's report for the week ended November 12 shows that the past month has made a change in the relations of mills to the cotton crop. Four weeks ago the takings of the Southern mills alone were greater than those for the same period last year. The latest report shows that the takings from September 1 to November 12 were, by Southern mills, 262,402 bales, or 11,104 more than in 1896, and by Northern mills, 606,256 bales, or 33,497 more than in 1896. The exports were 1,789,366 bales, or 39,512 more than in 1896. Great Britain took 61,290 bales less, but

France took 13,406 and the Continent 87,396 more than in 1896. The increase in amount of crop brought into sight over last year was 118,900 bales.

AMERICA VS. ENGLAND.

Their Sharp Competition for Trade in Australia.

An Australian merchant, in a long letter to the London Times, tells of the superiority of American to British methods in securing a market for manufactured goods in his country. Some of the items he mentions that the colonial importers note are the following:

The American manufacturer or responsible manager dictates his correspondence to a shorthand typewriter, and with the invoice sends also valuable information. The invoices also are typewritten, and the extensions are carried out in parallel columns in dollars and sterling at the current rate of exchange, and by means of carbon copies are furnished in triplicate. This latter is a prized facility, giving one copy for use by the importer's clerk at the customhouse, another by which the stock office can work out the cost, and a third for the ledger accountant and transactions with the bank.

The American excels the manufacturers of all nations in his printed matter. His catalogues are admirably illustrated, printed on good paper, strongly bound. If so requested, he will print the name of the importer on every sheet, and also the latter's selling prices instead of his own. The agricultural-implement catalogues are marvelous productions. In the case of reapers and binders, every separate part is illustrated and numbered, and to each a code word is attached, also the importer's price for that part. In case of a break at harvest time, a farmer living a hundred miles away can telegraph the code word for the broken part, and thus reduce delay to a minimum.

The British manufacturer sends his agent to every importer, gets all the orders possible from that class, then goes to the smaller dealers and does the same. This has become so general that many large importers now refuse to have dealings with British salesmen. The American agent goes to the largest house in his particular line and offers him sole control of his goods. He also goes to the large farms and shows how to operate the machinery, without expense to the importer.

The American has made the packing of goods a fine art, and been so successful that no damage is done by the severe handling received on wharves or railroads. But the best thing about the American manufacturer is that he never disputes with a customer—he knows it does not pay—while his British competitor invariably disputes any claim for damages. An Australian farmer wrote the importer of whom he bought some American plows that the molding board of one was broken. The letter was forwarded to the American makers, who promptly replied:

"This is the first time that we have been notified that one of our molding boards has been broken by fair wear and tear. Express our regret to your farmer, send him three new ones, and charge all expenses to our account." That farmer was turned into a walking advertisement at very slight expense.

There are in this communication many valuable hints to American manufacturers who would like to market their goods in that distant region. They tell how John Bull can be made to yield to American skill and business tact.

Charleston as an Exporter.

The export record at Charleston, S. C., was broken on Saturday, November 13. On that day six British steamships were cleared from that port, and their total cargoes consisted of 40,000 bales of upland cotton, 16,500 sacks of flour, 3700 tons of pig iron, 5000 bushels of wheat, 1033 barrels of rosin, 25,000 feet of cypress lumber and 500 tons of cottonseed. Naturally the newspapers of the city are elated at these evidences of the success of the efforts of merchants and other business men to increase the importance of the port, and the News and Courier says:

"The season of 1897 has undoubtedly marked the beginning of a new era in the history of Charleston. Once upon a time many years ago Charleston, in proportion to its size, was second to no other city in the United States in the volume of business transacted within her walls. Everyone knows why she lost her footing, as it were, and so it would be a mere waste of time and words to rehearse the reasons now. But in spite of all this, the capitalists and business men who knew full well just what there was in Charleston, were not content to sit down and see the city sink into obscurity to the amusement of other more successful places. They went ahead and secured vastly-improved railroad connections, good terminals along the wharves that placed the goods alongside the ships with expedition and facility, and last, but not least, deep water on the bar. These three things have been the direct cause of the wonderful steps forward the city has made within the past year or two, and will be the reasons of Charleston again taking a permanent stand among the foremost commercial cities of the country."

Literary Notes.

The Juggler. By Charles Egbert Craddock. Publishers, Houghton, Mifflin & Co., Boston and New York. Price \$1.25.

Through a singular combination of circumstances the leading character in this latest production of Miss Murfree's has an opportunity, practically imperative, to escape the stress of organized society represented by life in St. Louis. Recovering from what would probably be catalogued as an attack of nervous prostration, he finds himself in the Tennessee mountains, with abundant means for recuperation, but an object of suspicion, heightened by his feats of jugglery resorted to as a financial diversion. To identify himself with the cove community of which he expects to remain a member, he drifts into an attachment for an unpolished but ambitious mountain girl. On the verge of happiness he wanders into a fashionable summer resort and is shocked, as he should have been, by the discovery that the ephemeras of civilization are for him essentials. He is killed, presumably of his own volition, during another juggling, and the story is thus brought to an end rather unsatisfactory to the reader.

Full of dramatic force, the plot is rapidly developed in the setting of the Great Smoky's sublimity. The chances for strong contrasts have not been disregarded, the wealth of description is a little ostentatious, and such adjectives as "bosky" and "dank" appear too frequently, but throughout the story Miss Murfree demonstrates that her power to delineate certain phases of the life of the Tennessee mountains is undiminished.

Literature, the new international gazette of criticism, the first issue of which was published in New York on

November 5, seems to have anticipated a distinct need of such a periodical. The demand has been so great that the first edition was exhausted in two days, and Messrs. Harper & Bros. announce that some delay must ensue before all the orders can be filled.

Among the books published this week by the Harpers is "The Kentuckians," a novel in which the types of "bluegrass" man and mountaineer are dramatically contrasted by John Fox, Jr., author of "A Cumberland Vendetta," "Hell for Sartain" and other stories.

The Christmas Ladies' Home Journal will have Christmas stories by Mary E. Wilkins, Ruth McEnery Stuart, Hamlin Garland, Mrs. A. D. T. Whitney, Mrs. Mark Morrison and Lilian Bell.

Frank R. Stockton has just completed a combination ghost and Christmas story for Frank Leslie's Popular Monthly, and it will appear in the Christmas number of that periodical.

Manufactures in Missouri.

In the annual statement of State Labor Commissioner Arthur Rozelle, of Missouri, have been tabulated reports from nearly 1000 manufacturers, representing forty-six of the leading industries of the State. The output of these factories last year aggregated almost \$89,000,000, and the wages paid, exclusive of clerical force, amounted to \$17,267,845, the average number of persons so employed last year being 41,283. The clerical force employed—managers, salesmen, bookkeepers, clerks and stenographers—consisted of 4514 males and 376 females, the average monthly salaries paid by the manufacturers being as follows: Managers, males \$120.46, females \$44.73; salesmen, males \$107.06, females \$51.33; bookkeepers, males \$79.66, females \$46.15; clerks, males \$50.77, females \$34.71; stenographers, males \$45.56, females \$45.07.

The industry paying the highest average wages to all classes of its male employees was printing and engraving, \$2.45 for nine and a-half hours' work, while creameries paid the lowest average wages, \$1.08 for eight and two-thirds hours.

Among the other prominent industries flouring mills paid an average of \$1.85 for ten hours; saw mills, \$2.13 for ten hours; stone and granite quarries, \$2.03 for nine and a-half hours; stove works, \$2.19 for nine and a-half hours; boot and shoe factories, \$1.73 for males and ninety-seven cents for females for ten hours; cigar factories, \$1.73 for males for eight and one-third hours, and \$1.14 for females for nine hours; breweries, \$1.95 for ten and one-fifth hours.

The annual meeting of the National Board of Trade will be held this year at Washington on December 14. Among the questions which will come up for discussion will be the creation of a Department of Commerce and Manufactures, which is already familiar to readers of the Manufacturers' Record. The idea of such a department has found favor generally among business bodies throughout the country, and will doubtless be indorsed.

The Real Estate Exchange of New Orleans has elected Albert Paul, president; L. L. Stern, vice-president; D. Danziger, treasurer; H. H. Hodgson, secretary, and C. T. Tessler, assistant secretary.

The Cotton-Planters' Journal has begun publication at Memphis, Tenn.

RAILROAD NEWS.

[A complete record of all new railroad building in the South will be found in the Construction Department.]

Baltimore & Ohio Annual Report.

The annual report of the Baltimore & Ohio Railroad Co., which has been submitted to the stockholders, shows that the gross earnings for the year ending June 30 amounted to \$25,582,122, an increase of \$1,637,341. The freight earnings amounted to \$18,336,852, an increase of \$1,518,180. The total expenses for the line were \$20,012,094, an increase of \$2,428,673 over the preceding year. It is explained that this is caused by the expenditure of large sums required for maintenance of way and equipment. The extensive improvements which have been carried out by the receivers from time to time have been referred to in the Manufacturers' Record. It is explained that the deficit for the year was \$1,177,120, but had it not been for the increase in expenses and maintenance generally, the earnings would have been more than sufficient to pay the interest on the bonded indebtedness of the road. During the year \$1,895,497 was expended for construction and betterments, an increase of \$1,386,370. Accompanying the report are a number of tables showing the earnings and expenses of the different divisions, also giving an accurate list of all the securities owned by the Baltimore & Ohio at the date of the annual report.

Georgia & Alabama's Good Showing.

The annual meeting of the Georgia & Alabama Railroad Co., held at Americus, Ga., resulted in interesting reports being made by the several officers of the company. The financial report shows gross earnings for the year ending June 30 amounted to \$1,021,836, an increase of \$398,785 over the preceding year. The increase in net earnings was \$120,118, or nearly 75 per cent. of the total of 1896. A number of important improvements have been completed during the year. These include shops at Americus, which are considered by experts to be among the best in the country, and have already been described in the Manufacturers' Record. Eleven and one-half miles of branch line have been built, and a number of grades and curves reduced, with the view of shortening the distance between Savannah and Montgomery and increasing the speed of passenger and freight trains. This road is the shortest route between the cities named by seventy-four miles.

Railroad Annual Meetings.

The annual meeting of the Georgia Railroad Bank resulted in the re-election of Jacob Phinizy, of Augusta, as president; Leonard Phinizy, vice-president, and C. G. Goodyear, cashier. Mr. Phinizy was also elected president of the Georgia Railroad Co. by the board of directors, succeeding Chas. H. Phinizy, who, it is stated, has resigned on account of ill-health.

The North Carolina Midland Branch of the Southern Railroad Co. has re-elected its present officers. They are as follows: President, A. B. Andrews; vice-president, W. W. Finley; secretary, H. W. Miller, and treasurer, H. C. Ansley.

The annual meetings of the Georgia, Carolina & Northern and the Seaboard Air Line Belt Railroad companies, held at Atlanta, resulted in the re-election of R. C. Hoffman, president, and E. St. John, vice-president.

Port Arthur's Development.

A number of prominent business men of Kansas City, Mo., recently made a trip to Port Arthur as the guests of the Kansas City, Pittsburg & Gulf Railroad Co. They examined the terminal facilities of the railroad at this point and the improvements, which include three piers, two completed and one under construction, also a large warehouse under construction. They were taken to the jetties and along the canal which is being excavated in Sabine Lake. A number of opinions of the visitors have been published, and indicate that all believe Port Arthur has a great future. Predictions are made that within ten years it will have from 50,000 to 100,000 population, and that its mercantile and manufacturing growth will be equally as rapid. The country in the vicinity of Port Arthur was also visited, and its fertility and the diversity of crops raised surprised the visitors.

Raleigh & Gaston Meeting.

The annual meeting of the stockholders of the Raleigh & Gaston branch of the Seaboard Air Line resulted in the re-election of R. C. Hoffman, president, and E. St. John, vice-president, and the other officers.

The vote at the annual meeting of the Raleigh & Gaston division of the Seaboard Air Line was 11,856 shares for the present management and twenty-one shares against it. Out of the total of 15,000 shares, 11,877 were represented.

President R. C. Hoffman, of the Seaboard Air Line, has issued a pamphlet, in which he details the relations of the Seaboard with the firm of R. C. Hoffman & Co., and replies to the charges made by Thomas F. Ryan at the annual meeting of the Seaboard & Roanoke Railway Co. The pamphlet contains letters from various persons concerned, also affidavits which constitute a general denial of the allegations.

A Trainload of Baking Powder.

The Southern Railway Co. recently shipped a solid trainload of baking powder from Richmond, Va., for various points in the South. It consisted of twenty-one cars, of which four were for Jacksonville, two for Mobile, two for Montgomery, two for Wilmington, four for Charlotte, two for Pensacola, three for Atlanta, one for Macon and one for Norfolk. Each car bore a sign indicating its contents and giving the names of the shipper and destination. This is believed to be the largest shipment of baking powder ever made in this country at one time, and indicates not only the extent of the industry in Richmond, but the enterprise of the Southern Railway Co.

Western Maryland Freight Business.

The Western Maryland Railroad has determined to add to its steam power, and has given an order to the Baldwin Locomotive Works for six consolidated engines. These are to be delivered as soon as possible, and will be used in hauling freight trains. This order, which represents over \$50,000, is an indication of the business which the Western Maryland is doing.

Terminals at Port Norfolk.

A dispatch from Norfolk, Va., announces that the New York, Philadelphia & Norfolk Railroad Co. has practically determined to consolidate its terminals at Port Norfolk on the harbor, and will use this place for its export business. It is understood that a sub-company has purchased land in that vicinity for \$45,-

000. Port Norfolk is a terminus of the belt railroad, now being constructed in the suburbs of Portsmouth, and cars can be transported to this place in solid trains or singly.

Washington to Gettysburg.

James B. Colegrove, of Washington, president of the Washington, Westminster & Gettysburg Railway Co., advises the Manufacturers' Record that the capital of the company is \$2,000,000, and that the road is to be laid with 70-pound steel rails. It will be standard gauge, operated by steam-power, and a New York contracting company is to build it. The officers, aside from Mr. Colegrove, are T. Herbert Shriver, vice-president; Wm. B. Thomas, treasurer; Henry A. Cady, secretary. A separate set of officers for Pennsylvania has also been chosen. The offices of the company are Rooms 47 and 49, Atlantic Building, Washington.

Another Georgia Project.

According to a dispatch from Augusta, Ga., the Augusta & Atlanta Railroad Co. has been formed to construct a road between the cities named, to be about 150 miles in length. This will be a parallel line to the Georgia Railroad, and it is reported to be built in the interest of the Charleston & Western Carolina Railroad Co., in which Messrs. Thomas F. Ryan and Samuel Thomas are interested. W. J. Craig, general manager of the Charleston & Western Carolina Railroad Co., appears in the papers as one of the incorporators. The route of the proposed road is through Richmond, Columbia, McDuffie, Wilkes, Oglethorpe, Oconee, Walton, Gwinnett, De Kalb and Fulton counties.

Railroad Notes.

The Baltimore & Washington Transit Company, which is interested in an electric line between Washington and Rockville, Md., has re-elected N. Winslow Williams, of Baltimore, as president.

Mr. W. C. Bullitt, traffic manager of the Norfolk & Western Railroad Co., has tendered his resignation. It is understood that Thomas S. Davant, general freight agent, will assume Mr. Bullitt's duties.

The stockholders of the Savannah Freight Bureau, of Savannah, Ga., have elected W. W. Gordon, president; J. A. J. Carson and W. W. Williamson, vice-presidents, and James L. Jackson, treasurer.

The Mobile & Ohio has recently received a number of vestibuled coaches for its passenger service which are among the finest in this country. The cars contain all of the latest improvements and are handsomely furnished.

The Louisville & Nashville, it is stated, will arrange its train service between Chicago and the South for the winter early in December. It is calculated to have several fast trains between Chicago, New Orleans and Florida and other points.

The receivers of the Baltimore & Ohio Railroad Co. are negotiating with the Southern Iron Car line for 1500 box cars and 500 coal cars. It is stated that this equipment is necessary on account of the freight business which is now being done.

The Chesapeake & Ohio Railroad Co. has begun a service between Louisville, Ky., and Wheeling, W. Va., which it is understood is to be extended to Pittsburgh within a few weeks. By this service passengers will be carried direct between Louisville, Wheeling and Pittsburgh without change. The arrangement

will be made in connection with the Ohio River Railroad.

The Fort Worth (Texas) Stockyards Co. has been obliged to increase its yards in that city for the accommodation of cattle. It is stated that about 50,000 head have already been engaged from ranches in the Southwest, which will be exported by way of Galveston.

The Baltimore & Northern Electric Railroad Co., of Baltimore, has placed an order for a number of closed cars, which will be used upon its line between Baltimore and Emory Grove, Md. They are similar to the regular passenger coaches, and contain all the latest improvements.

According to a dispatch from Kansas City, Mo., the Kansas City, Pittsburg & Gulf Railroad Co. will inaugurate its new steamship line to Mexico on December 5, when the first vessel will sail. Two more steamships will leave during December, and the service will increase as the trade demands.

The stockholders of the Charleston & Western Carolina Railroad Co., at their annual meeting held at Greenwood, S. C., re-elected John B. Cleveland, of Spartanburg, S. C., president; Samuel Thomas and Henry Crawford, vice-presidents. The appointment of W. J. Craig as general manager was confirmed.

"The Texas & Pacific Quarterly" is the title of a very handsome publication which is being issued in the interest of the Texas & Pacific Railway Co. It is unusually well illustrated, and contains a large amount of descriptive matter of the country through which this system runs. It is edited and compiled by Hon. Alexander Hogg, ex-Governor of Texas, and is a credit to his literary ability.

The Board of Trade of Birmingham, Ala., is discussing the idea of placing a line of steamers upon the Tennessee river between Chattanooga and Riverton, which will be operated in connection with another line from Riverton to Cincinnati and St. Louis. It is understood that the Chamber of Commerce of Chattanooga also thinks favorably of the scheme, and will co-operate with the Birmingham people.

The November number of the "Book of the Royal Blue," issued by the passenger department of the Baltimore & Ohio, is equal, if not superior, to the initial publication. It has a rich cover of blue and gold, and the illustrations and typographical work are of the best. A number of interesting articles are between the covers, among them a sketch of the Baltimore & Ohio during the war; also an article on modern photography, which is appropriately illustrated.

Alabama's Pipe Industry.

According to a dispatch from Birmingham, Ala., a representative of the Howard-Harrison Iron Co. is preparing to leave for England with the view of securing an order for 50,000 tons of pipe, which is about to be awarded in that country. This company recently turned out a section of pipe of seventy-two inches inside diameter. This is one of the largest sizes ever cast by any foundry in the world.

The Nashville, Chattanooga & St. Louis Railroad Co. has presented its exhibit for a part of a permanent exposition at Nashville, Tenn. It was one of the best of the entire display at the Tennessee Centennial, and it is believed will be one of a number of several gifts. A portion of the plan is to turn the exposition grounds into a permanent park, and this is now being considered by the people in the city.

LUMBER.

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

LUMBER MARKET REVIEWS.

Baltimore.

Office Manufacturers' Record,

Baltimore, November 18.

A notable improvement has been shown in the local lumber market during the past week, and the general demand has been fairly active. Along the wharves and docks stocks of lumber are being much reduced, while, however, there still remains an ample supply for the current demand. Box factories have been enjoying a fair business during the fall months and are still in the market for desirable material. Planing mills also report business better and most of them have orders sufficient to keep them employed. Air-dried yellow-pine lumber does not seem to improve much and prices are still easy. In kiln-dried North Carolina pine there is a good inquiry both from local and out-of-town parties. White pine is firm, with a moderate demand, and stocks not excessive. Sales are reported of desirable grades of white pine at list prices. The local hardwood trade is active and a considerable movement is reported in walnut. Other woods are moving more freely and the demand generally is more decided in character. The outlook for a better export trade is somewhat improved, but at the moment the volume of business in this line is light.

The following list represents the prices current at this date:

[The quotations for yellow pine are for cargo lots, and for all hardwoods the figures indicate values for choice car lots.]

VIRGINIA AND NORTH CAROLINA PINE	
5-4x10 No. 2, kiln dried.....	\$12 50@ 13 50
5-4x12 No. 2, kiln dried.....	14 00@ 15 00
4-4x10 No. 1, kiln dried.....	15 00@ 15 50
4-4x12 No. 1, kiln dried.....	15 00@ 16 00
4-4 nar. edge, No. 1, kiln dried.....	12 50@ 14 00
4-4 wide edge, No. 1, kiln d.r.d. 17 50@ 18 50	
6-4x10 & 12, No. 1, kiln dried.....	23 00@ 24 00
4-4 No. 1 edge floor, air dried.....	12 00@ 13 00
4-4 No. 2 edge floor, air dried.....	10 00@ 11 00
4-4 No. 1 12-in. stock, air dried.....	15 00@ 16 00
4-4 No. 2 12-inch stock.....	12 50@ 13 50
4-4 edge box or rough wide.....	8 00@ 8 50
4-4 edge box do. (ord. widths).....	7 00@ 7 50
4-4 12-inch rough.....	9 00@ 9 50
4-4 narrow edge.....	5 50@ 6 50
4-4 wide.....	6 50@ 7 50
4-4 x9 1/2 and 10 1/4-inch.....	7 50@ 8 50
Small joists, 2 1/2-12, 14 and 16 long.....	7 50@ 8 50
Large joists, 3-16 long and up.....	8 00@ 9 00
Scantling, 2x3, 2x4 and 3x4.....	7 00@ 8 00

WHITE PINE.

1st and 2d clear, 4-4, 5-4, 6-4 and 8-4.....	\$47 00@ 48 00
3d clear, 4-4, 5-4, 6-4 and 8-4.....	42 00@ 43 00
Good edge culis.....	14 50@ 15 50
Good stock.....	16 50@ 17 50

CYPRESS.	
4-4x6, No. 1.....	\$19 50@ 20 50
4-4x6, No. 2.....	13 50@ 14 50
4-4x6, 16 feet, fencing.....	10 00@ 11 00
4-4x6, rough.....	8 50@ 9 00
4-4 rough edge.....	8 00@ 8 50
4-4 edge, No. 1.....	16 00@ 17 00
4-4 edge, No. 2.....	12 00@ 13 00
Gulf, 4-4, Nos. 1 and 2.....	23 00@ 29 50
Gulf, 6-4, Nos. 1 and 2.....	28 00@ 30 00

HARDWOODS—WALNUT.

5-8, Nos. 1 and 2.....	\$85 00@ 75 00
4-4, Nos. 1 and 2.....	80 00@ 90 00
5-4, 6-4 and 8-4.....	85 00@ 95 00
Newell stuff, clear of heart.....	85 00@ 100 00
Culis.....	20 00@ 30 00

OAK.

Cabinet, white and red, Southern, plain-sawed and good, 1 and 2, 8 inches and up, 12 to 16 feet long, 4-4.....	\$30 00@ 34 00
Quartered white, Western, 1 and 2 quality, all figured, 6 inches and up wide, 4-4.....	53 00@ 55 00
Culis.....	10 00@ 15 00

POPLAR.

Nos. 1 and 2, 5-8.....	\$24 50@ 25 50
Nos. 1 and 2, 4-4.....	28 00@ 30 00
Nos. 1 and 2, 6 and 8-4.....	32 50@ 33 50
Culis.....	11 50@ 12 50

SHINGLES.

Cypr., No 1 h'rts, sawed, 6x20	\$6 25@ 7 00
No. 1 saps, sawed, 6x20	4 75@ 5 00
No. 1 hearts, shaved, 6x20	6 00@ 7 00
No. 1 saps, shaved, 6x20	4 75@ 5 00

LATHS.

White pine.....	\$1 90@ 2 10
Spruce.....	2 10@ 2 15
Cypress.....	1 55@ 1 65

Norfolk.

[From our own Correspondent.]

Norfolk, Va., November 15.

There is a fairly active movement in nearly every department of the lumber trade at this port, and the market is generally firm for all desirable grades of

lumber. There is a good demand throughout the general list of grades and dimensions, and the volume of business during the past fortnight has shown considerable expansion. Stocks are by no means excessive; on the other hand, there is a decided scarcity of certain grades, notably 4x4, 5x4, 6x4 and 8x4 No. 1 stocks, and 4-4 No. 1 wide edge, for which there has been an unusual demand. At this and all nearby milling sections there is considerable activity among the various milling plants, and nearly all are running on full time and are well supplied with orders, the output being generally contracted for, so that stocks still continue very light. There has been a great deal of new business done during the past month, and North Carolina pine is becoming more popular every season. A largely-increased export demand for lumber is being developed, and manufacturers here are very much encouraged by the general outlook for trade. There is at present a good demand for 10-inch box lumber for oil shooks, and box factories are at present turning out some large orders for home and export trade. Other woodworking concerns here have a good run of business at the moment, and planing mills are very busy, running full time, and some are pressed with orders and are putting on an extra force. Prices for lumber do not advance, but the improvement is steady, and during the next sixty or ninety days it is thought that there will be a sharp advance in both rough and dressed lumber. There is a slight improvement in air-dried lumber, but the tone of trade is unsatisfactory, in sympathy with the situation at Baltimore, which shows but little activity. Lumber freights are unchanged as to rates, and there is a scarcity of desirable tonnage, all vessels being promptly taken at ruling rates as follows: To New York \$2.15 to \$2.25, and to Boston \$3. Two schooners were taken in New York last week, 201 and 387 tons, respectively, to load here with lumber for that city at \$2.25.

Charleston.

[From our own Correspondent.]

Charleston, S. C., November 15.

A quiet market in nearly every branch of the lumber industry has ruled here during the past week, and the demand is only moderate. There is, however, considerable business doing at all milling centres adjacent to this city. At Georgetown the mills are running on full time, and shipments from that point are active. The schooner Charles H. Sprague loaded a cargo of cypress last week for Boston at the Gardner & Lacey Lumber Co.'s mills, and the schooner Bayard Hopkins took a cargo of cypress lumber for Philadelphia from the George Officer Lumber Co. at Eddy Lake. Among the shipments last week from this port were the following: Steamship Dalmatin for Hamburg with 13,947 pieces of lumber; schooner Mary Lee Patten for Baltimore with 410,000 feet of lumber; steamship Pawnee for Boston with 13,130 feet of lumber and other cargo, and steamship Comanche with 5040 feet of lumber among her cargo. The total shipments of lumber from this port from September 1, 1896, to November 12, 1897, amounted to 7,885,243 feet domestic and 250,000 feet foreign, making a total of 8,135,243 feet, against 12,621,314 feet a year ago. The general tone of the market on Saturday last was fairly active, with prices steady, as follows: Merchantable lumber, \$14 to \$16 for city-sawed, \$12 to \$14 for railroad; square and sound, \$9 to \$13 for railroad, \$8 to \$11 for raft; dock timber, \$4.50 to \$6.50; shipping, \$8.50 to \$10.50. There is a fair inquiry for shingles at \$5 to \$7 per thousand. Lumber

freights are unchanged as to rates, which are very low at present. Lumber rates to New York are still quoted at \$4.38 to \$4.50; wet ties to Perth Amboy, 15 cents each, basis forty-six feet, and dry railroad ties to New York, 11 1/2 cents, basis thirty-six feet; lumber to Fall River, \$4.50.

Savannah.

[From our own Correspondent.]

Savannah, Ga., November 15.

The week under review at this port has been fairly active throughout the lumber industry, and the demand, both foreign and domestic, is good. Shipments are keeping up remarkably well, and at nearby ports in this State there is a good volume of business in that line. Manufacturers are more encouraged by the general outlook, and it is expected that the winter months will develop an increase of trade in all wood products. Saw mills at Brunswick, Darien and at interior points are running at their full capacity, and have a full share of orders for prompt and future delivery. There is a good demand for crossties, and several good orders were received during the week. Prices for all grades and dimensions of lumber are about steady, with holders firm in their views, and only slight advances have been made recently in certain grades. On Saturday the market closed firm, as follows: Ordinary sizes, \$10.50 to \$11; difficult sizes, \$12 to \$14; flooring boards, \$15 to \$17; shipstuff, \$14.50 to \$18, and sawn ties, \$9.50. Among the shipments of wood products during the past week were the following: For New York schooner Julia A. Trubee with 340,855 feet of lumber; schooner Carrie Strong with 399,049 feet, and by steamer 648,960 feet and 64,000 shingles. The schooner Mary B. Baird cleared for Philadelphia with 141,055 feet of lumber and 10,186 crossties measuring 454,550 feet; schooner Margaret May for Baltimore with 393,367 feet of lumber, and 165,783 feet by steamer. The schooner Harry B. Ritter cleared with 460,000 feet of lumber for Wilmington, Del., and the schooner Henry Clausen, Jr., with 137 pieces of piling and 130,158 feet of lumber. Lumber freights are steady at unchanged rates and a moderate offering of desirable tonnage. The following charters were reported in New York last week: Schooner Harriet C. Kerlin, Savannah to Philadelphia with lumber at \$4.25, coal out, 80 cents; schooner Aaron Rippard, Savannah to Philadelphia with lumber at \$4.25, coal out, 80 cents; schooner Thomas A. Wood, from Savannah to New York or Perth Amboy with ties at 14 1/2 cents, 75,000 feet daily.

St. Louis.

[From our own Correspondent.]

St. Louis, Mo., November 15.

The market here is fairly active, and while there is no rush of orders, a good steady trade in all branches of the lumber industry is in progress. The general trade of the fall months has, as a rule, been very satisfactory, and at the moment all the factories are running, and a fair list of buyers is in the local market. The yellow-pine trade is exceedingly good, and the demand is keeping up better than usual at this period of the season. There is some complaint of a shortage in cars, and manufacturers claim they cannot get their orders shipped as promptly as could be wished. Stocks of yellow pine at Southern mills are not well assorted, but at all the mills are more or less broken in both upper and lower grade stocks. There has been less demand for white pine during the past week than usual, but there is still a good volume of business reported. The

demand from out of town has been restricted by recent rains, but the local demand is fair. Prices of white pine remain firm for desirable grades, and the indications are good for the winter months. The movement in cottonwood is expected to be more active now, as the river is beginning to rise, and manufacturers will soon be able to move their stocks which have been on hand for some time. In hardwoods the situation is encouraging, and the demand is good for all the better grades of stock at full prices. Common and inferior grades have been selling to some extent, and the demand for oak, walnut, poplar, ash and other woods is better than at the same date last year. The report of the Lumbermen's Exchange for the week ending the 6th inst., exclusive of white-pine receipts from the upper Mississippi rivers, is as follows: Receipts, 15,293,000 feet; shipments, 9,708,000 feet. From January 1 to November 6, inclusive, receipts amounted to 648,043,000 feet, being an increase of 47,190,000 feet over 1896; shipments 395,628,000 feet, an increase of 52,428,000 feet over last year.

Lumber Notes.

The Salem Barrel and Stave Factory, of Salem, Va., has received an order for 800,000 staves from the Richard Grant Co., of New York city.

The Brenham Manufacturing Co., of Brenham, Texas, is putting in a saw mill with a capacity of 15,000 feet per day, in connection with their growing furniture trade.

The Virginia & North Carolina Wheel Co., of Richmond, Va., is purchasing all the hickory timber shipped from Meherin, Va. Twenty carloads of this wood have been shipped this year.

A sash and blind factory at Richmond, Va., has received an order for 8000 doors and a large quantity of sash. This is the first order of the kind ever received by a Richmond establishment.

The Campbell & Dean Manufacturing Co., of Tullahoma, Tenn., has completed the office building for their new factory. The main building will be rushed to completion. This company will manufacture carriage and wagon woodwork.

A company, to be known as the Crescent Stave Co., was organized at Dickson, Tenn., on the 8th inst. The incorporators are T. C. Seaman and L. R. Shaw. The company will enter largely into the manufacture of pork-barrel staves.

The Chattanooga Plow Works, at Chattanooga, Tenn., reports considerable activity in trade and is enlarging its plant. The new blacksmith and machine shop, 60x200 feet, in process of construction for the company, will add greatly to its appearance and facilitate business.

In the yellow pine, white pine and cypress trade the Mickle Lumber Co., of St. Louis, recently organized

1½ per cent. was declared, payable on and after December 1. This company has been very successful, its stock having risen from 50 a few years ago to 95 last spring, and is now quoted at 108 asked.

The Boston Fruit Co., which is interested in the construction of a large hotel at Kingston, Jamaica, has ordered the cypress lumber and sashes, doors, blinds, etc., for the building from Messrs. Geo. S. Hacker & Son and other manufacturers of Charleston, S. C. The shipment was made last week by the schooner Sir Herbert, which cleared for Kingston with a full cargo.

Secretary Dirmeyer, of the Mechanics, Dealers and Lumbermen's Exchange of New Orleans, reports the receipts of wood products in that city for the week ending the 11th inst. as follows: Lumber 1,385,000 feet, shingles 116,000, laths 172,000, oak staves 76,000 and cypress staves 100,000. The total receipts of lumber for the season amount to 21,217,000 feet, against 19,753,000 feet last year.

The following shipments of lumber, laths and shingles were made during October by the several lumber companies of Orange, Texas: Lutcher & Moore Lumber Co., 2,289,000 feet of lumber, 132,000 laths and 1,531,000 shingles; Bancroft Lumber Co., 844,580 feet of lumber and 8000 shingles; Alexander Gilmer, 2,015,513 feet of lumber; Orange Lumber Co., 2,233,282 feet of lumber, and Wingate Lumber Co., 2,581,773 feet.

The DeLoach Mill Manufacturing Co., of Atlanta, is at present enjoying an extensive foreign trade. It has recently received some good orders for saw mills from Central American States and from the Argentine Republic, in South America. Last week the company shipped a saw mill to the latter country, which, it is said, is among the first of several orders promised from that section. The company is also shipping its mills to South Africa.

Mr. Edwin Haynes, representing William Rider & Son, Limited, publishers of the Timber Trades Journal, of London, England, was in the city last week. Mr. Haynes is on a tour of the South and Southwest, making a thorough inspection of the various features of the lumber industry of the South. The Timber Trades Journal will complete the first quarter of a century of its publication on February 19, 1898, and will issue a special illustrated edition on or about that date.

The Chamber of Commerce of Norfolk in its comparative statement compiled by Secretary Borum giving the receipts of wood products for the nine months ending September 30 for 1896 and 1897 reports as follows: Lumber, 233,985,562 feet, against 217,200,320 feet last year; logs, 97,667,320 feet, against 94,586,044 feet for the corresponding period in 1896; staves, 6,863,574, against 3,137,987 in 1896; shingles, 31,222,210, against 24,226,500 last year, and railroad ties, 98,791, against 70,686 last year.

Among the shipments of wood products last week from Jacksonville, Fla., the following vessels were reported: Schooner N. T. Morse for Norfolk, Va., with 385,000 feet of lumber; schooner Marion for Atlantic City with 160,000 feet; schooner Susan M. Pickering for Boston with 380,000 feet; schooner Josephine for Philadelphia with 235,000 feet of yellow-pine lumber, 33,000 feet of cypress lumber and 69,000 shingles; steamship Pawnee for New York with 250,000 feet of lumber, 1000 crossties and other cargo. The steamships Co-

manche and Seminole cleared for New York, the former with 240,000 feet of lumber, 2700 crossties and 2400 bundles of shingles, and the latter with 500,000 feet of lumber, 3000 crossties and 2500 bundles of shingles.

The steamers George W. Clyde and Oneida cleared for New York from Wilmington, N. C., last week with 398,219 feet of lumber among their cargoes, and the schooner Humarock with 408,709 feet from the Cape Fear Lumber Co.

Among the exports of timber and lumber last week from the port of Mobile were the following vessels: Bark Danri for Cetee, France, with 11,670 cubic feet of sawn timber and 181,000 feet of lumber, and steamer Utstein for Bocas del Toro with 24,631 feet of pitch-pine lumber and 50,000 shingles.

The large marble mill at Loudon, Tenn., which has been closed for several years, will resume within the next few days under the management of Mr. Ulrich Ita. Mr. Ita has also leased the plant of the Loudon Lumber Co.; has purchased the Loudon Novelty Works, and combined same with the Tennessee Lumber Co., of which he is manager, and is building a very large trade in the East in wooden novelties, shipping in car-load quantities ironing-boards, washboards, clothesracks, curtain poles, shade rollers, shade weights and any and everything which can be made of wood, in addition to carrying on the regular wholesale lumber business of the Tennessee Lumber Co. In other words, nothing is lost, Mr. Ita selling his marketable lumber and manufacturing the cull and unmarketable lumber.

Iron Markets.

Cincinnati, Ohio, November 13.

The demand for pig iron during the past week has consisted mostly of small orders for early delivery. Large buyers, as a rule, purchased to cover this year's requirements during September's activity, but some of them find that on account of shortages of certain grades the furnaces from whom they purchased cannot supply them, and they are obliged to buy from others who happen to have the iron on hand. Shipments are going forward freely, and no requests are received to withhold them. On the contrary, much time is absorbed in answering telegrams and letters stating the urgent need of consumers. This applies to both iron and coke. Although the recent rains have helped in some quarters, yet there are a number of important coke operations very much behind on account of the drought.

Private advices from the South show a decline of about 49,000 tons in Alabama stocks during October. The car famine there is perhaps a little less pronounced, although still decidedly felt. Prices of Southern irons remain unchanged by the furnaces, but occasionally sales are made by holders of warrants at the usual differences. If the present lull continues it is believed that with the exception of a few strong holders, all the speculative iron will be disposed of.

The movement in Northern brands is not heavy. Buyers of the so-called "strong soft" Ohio brands are supplying themselves in lots of 100 to 300 tons, as usual. Most of the furnaces are fairly well supplied with orders, and are not eager sellers.

We quote for cash f. o. b. Cincinnati:

Southern coke No. 1 foundry..	@\$10 00
Southern coke No. 2 foundry..	9 75
Southern coke No. 3 foundry..	9 45
Southern coke, gray forge..	9 25
Southern coke, mottled..	9 00
Southern coke No. 1 soft..	10 00
Southern coke No. 2 soft..	9 75
Belfont coke No. 1, Lake Sup.	11 00@ 11 50

Belfont coke No. 2, Lake Sup.	10 50@ 10 75
Hanging Rock charcoal No. 1.	14 50@ 15 50
Tennessee charcoal No. 1.	12 50@ 13 00
Jackson Co. silvery No. 1.	12 50@ 13 00
Standard Georgia car-wheel..	14 25@ 15 00

New York, N. Y., November 13.

There has nothing of special interest developed the past week. All the favorable conditions prevailing at our last writing exist today, and are being better appreciated by all concerned as time rolls on. The production of pig iron has reached, perhaps, the maximum capacity of the serviceable furnaces, and notwithstanding this fact furnace stocks continue to shrink. The leading Southern company has reduced its stock to the lowest for years, and ships its large product daily as made. The supplies of raw material in the South are consumed as rapidly as mined and prepared, and should further advances in prices invite the revitalizing of some of the silent furnaces, it would be a problem as to an adequate supply of ores and fuel.

The lifting of the quarantine in the yellow-fever district admits of freer movement of iron, but the heavy cotton shipments now being made emphasizes the scarcity of rolling stock and interferes seriously with even reasonably prompt deliveries of iron. The fair weather, while severe on the stove trade, admits of the continuance of outdoor work in building, construction, track repairing and the like.

The stock markets are in good form, and prices advancing. Railroad earnings on low freight rates continue to increase, an unmistakable evidence of general activity and prosperity. Money is abundant at reasonable rates at all centers. It seems that all the tonic influences are in operation. The market closes in satisfactory condition.

We quote for cash f. o. b. New York:

No. 1 X standard Alabama..	@\$11 00@ \$11 25
No. 2 X standard Alabama..	10 50@ 10 75
No. 1 X lake ore coke iron..	12 50@ 12 75
No. 2 X lake ore coke iron..	12 00@ 12 25
Niagara coke malleable.....	12 00@ 12 25
Standard Georgia charcoal..	—@ 15 50

Philadelphia, Pa., November 13.

In answer to the stereotyped inquiry, "How do you find business?" it is the greatest fallacy to reply, basing your answer upon the tonnage booked for the week, or the period that the inquiry covers. We do not mean to infer that contracts firmly closed will not be filled, but we refer to delays in filling contracts, such as car shortage caused by detention of cars in yellow-fever districts and other causes beyond control of shippers. In spite of such vexatious delays, weekly shipments are heavier than they have been for a corresponding period during several years back, and based upon daily invoices of outgoing material, foreign and domestic, we unhesitatingly say the iron business is in a better than normal condition.

We quote for cash f. o. b. Philadelphia:

No. 1 X standard Alabama..	—@ \$11 50
No. 2 X standard Alabama..	—@ 11 00
No. 1 X lake ore coke iron..	—@ 12 50
No. 2 X lake ore coke iron..	—@ 12 50
Niagara coke, malleable.....	—@ 12 50
Standard Georgia C. C.	—@ 15 75

ROGERS, BROWN & CO.

The large drying shed at the St. Helena Phosphate Works, at Pacific, near Beaufort, S. C., containing phosphate rock in the process of drying, was burned on the 9th inst. There was no insurance.

French Commissioner Albert Bare is making a tour of inspection of the Tennessee phosphate field by order of the French minister of agriculture. As far as his researches have extended he is said to be well pleased with the various deposits of phosphate rock. It is stated that Mr. Bare has already taken out option on 30,000 tons of phosphate, and expects to handle about 130,000 tons during the next year.

PHOSPHATES.

Phosphate Markets.

Office Manufacturers' Record,
Baltimore, November 18.

In the local phosphate market there is no material change in the situation. Manufacturers are purchasing very sparingly and there is a moderate inquiry from both local and out-of-town sources. The volume of business at points of production continues about the same. The development in phosphate mining sections in South Carolina is confined at present to narrow limits and the industry shows no material improvement. In Florida the output is confined to actual wants, and stocks at all mining points are light, the product being shipped when marketable. Reports from the Tennessee phosphate belt are much more encouraging, and the output from Mount Pleasant will show an increase over that of last month. Receipts of phosphate rock in the local market during the week amounted to one cargo from Charleston. There are no charters reported. The market for sail tonnage in New York was quiet last week, and large vessels for long-voyage trade are scarce. Berth room is in good demand and rates are firm and unchanged. The following charters were reported during the week: Steamer Angers, 1918 tons, from Hamburg to Norfolk, Charleston or Savannah with kainit at 8/3; a British steamer, 1116 tons, from Tampa to King's Lynn with phosphate at 21/2; schooner Gertrude Abbott, 565 tons, from Charleston to Philadelphia with phosphate rock at \$1.75; British steamer Fenchurch, 2137 tons, from Hamburg to Charleston with kainit at 7/6, and a British steamer, 1014 tons, from Ponaron to Charleston with brimstone at or about 10/6.

Fertilizer Ingredients.

The tone of the market for ammoniates is fairly active and the inquiry continues of fair volume for this period of the season. The demand from the South seems to be well satisfied at the moment, few sales being reported to that quarter. There is a good inquiry from Eastern buyers and considerable business has been developed from that source. Stocks in the West are light and prices firm, with holders asking outside figures. Sulphate of ammonia is firm and a shade higher.

The following table represents the prices current at this date:

Sulphate of ammonia (gas).	\$2 25 @ 2 30
Nitrate of soda.....	1 75 @ —
Blood.....	2 20 @ —
Hoof meal.....	1 90 @ —
Azotine (beef).....	1 75 @ —
Azotine (pork).....	1 75 @ —
Tankage (concentrated)...	1 90 @ —
Tankage (9 and 20). 1 65 and 10 at 70 and 10	10 00 @ 17 00
Tankage (7 and 30).....	18 00 @ 17 00
Fish (dry).....	19 00 @ —
Fish (acid).....	12 00 @ —

Phosphate and Fertilizer Notes.

Messrs. Busey & Sons, of Columbus, Ga., are about to establish a fertilizer factory in that city, and are now negotiating with the city council for a site for their plant at the exposition grounds.

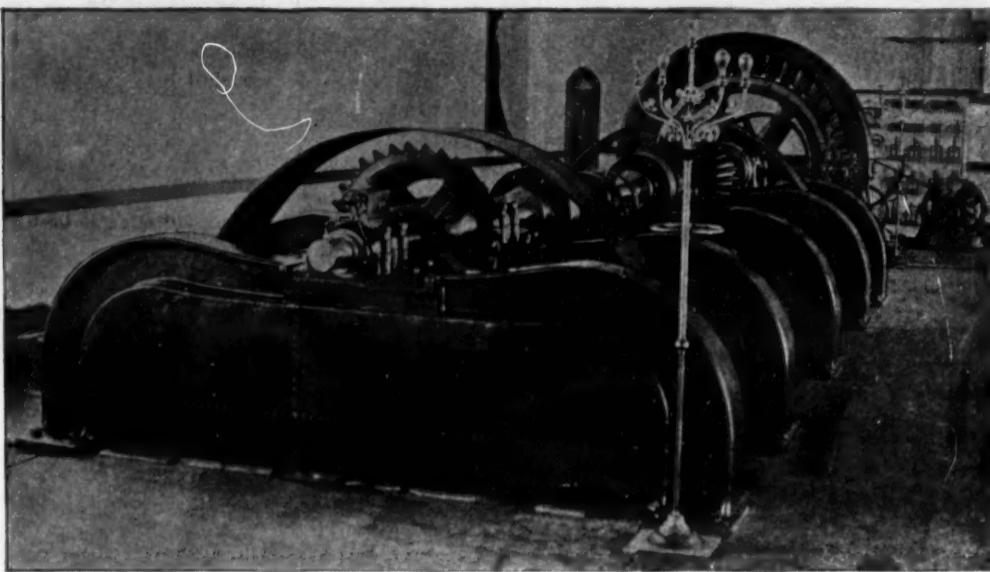
The steamship Inverness cleared last week from Savannah, Ga., for Stettin with 1300 tons of phosphate rock, valued at \$13,000, and steamship Aeolus for Hamburg with 2747½ tons of phosphate rock, valued at \$27,475.

The schooner Emma C. Knowles cleared last week from Charleston, S. C., for Elizabethport, N. J., with 950 tons of phosphate rock, and the schooner Anna L. Mulford for Baltimore with 700 tons. The total shipments of phosphate rock from Charleston to domestic ports from September 1, 1896, to November 12, 1897, amount to 15,492 tons, against 20,026 tons last year.

MECHANICAL.

Turbine-Electrical Transmission.

The rapid development of electrical transmission for power purposes has been



TURBINE AND ELECTRICAL TRANSMISSION OF THE MONTREAL COTTON CO., CANADA.

marked during the last few years. Turbine wheels in connection with electrical transmission, as illustrated on this page, represents 400-kilowatt generator direct connected to a jack shaft driven by two vertical 60-inch McCormick turbines, developing 600 horse-power under 12-foot head. The turbines, shafting, bevels, mortise gears (ten feet in diameter, 18-inch face, $4\frac{1}{2}$ -inch pitch), etc., were built by S. Morgan Smith Co., York, Pa., for the Montreal Cotton Co., of Valleyfield, Canada. The power is transmitted some distance to a large cotton factory. The plant is said to be the first generator direct connected to a jack shaft driven by vertical wheels in operation on this continent.

The owners of the plant were so pleased with the operation of the water-wheels and machinery after running the plant about two weeks, they placed their order with the S. Morgan Smith Co. for a duplicate, which, together with the first plant, have been in successful operation for over six months.

The arrangement of the turbines, gears and jack shaft, which are being furnished the Fries Manufacturing & Power Co., of Salem, N. C., for its new electric plant by the S. Morgan Smith Co., is very similar to the outfit described above, differing only in so far that there will be eight McCormick turbines driving one jack shaft, which will be direct connected to a 750-kilowatt generator.

Portable Pipe Cutter and Threader.

One of the latest portable pipe-cutting and threading machines produced by American foundries is that of the Columbus Machine Co., of Columbus, Ohio, an illustration of which is presented.

This machine is said to have the latest improved positive quick opening and closing dies, combined universal automatic or hand feed, automatically gauged cutting of knife and geared self-centring vise.

Many advantages are claimed for the machine of this type, the main ones being that it is heavy, durable, with protected mechanism, combined universal automatic and hand feed, adjustable knee-joint die opening and closing device, perfect automatically-gauged cutting-off knife, side-crank for cutting off or the simultaneous use of two cranks.

Different sizes of the machine have different sets of chasers. For further technical description address the maker, as above, for circulars and prices.

Expanded-Metal Construction.

Expanded metal is a material made from sheet steel, which, by a mechanical process, is cut and simultaneously spread into diamond-shaped meshes of different

and engineers an entirely new field of development. Architects are enabled to construct light concrete floors occupying little space, but possessing an enormous sustaining power. They make solid plaster partitions equal in stability to a brick

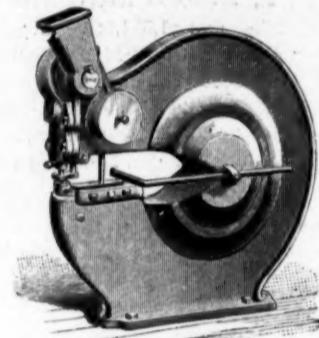
World's Fair, have widely extended its field until it has become invaluable to engineers in building reservoirs, fountains, bridges, sewers and other work where concrete can be advantageously utilized. The illustration shows a cross-section of a part of the D. O. Mills House, with details of the rooms, hall, solid plaster partitions and concrete floors. The black lines indicate the position of the expanded metal in the floors and partitions.

The Central Expanded Metal Co., of 256 Broadway, New York city, can give further particulars desired. Associated companies are also established in Chicago, Boston, St. Louis, Philadelphia, Washington and Baltimore.

General-Purpose Punch.

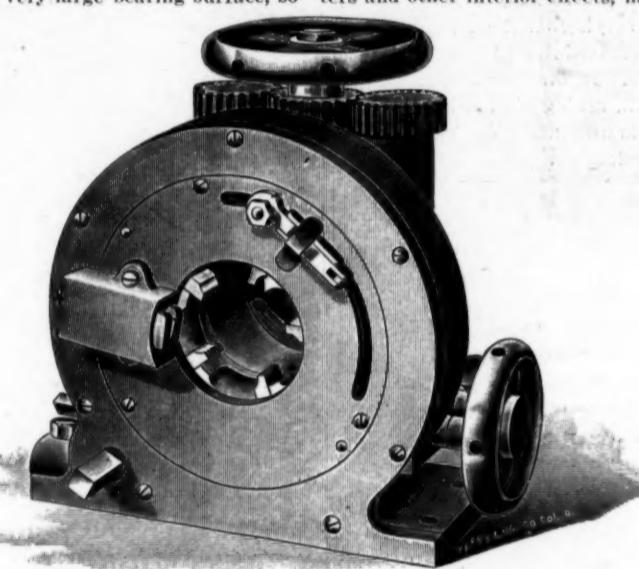
Ironworking and woodworking establishments desirous of securing an additional machine of much utility and handiness in such plants will find the general-purpose punch, illustrated, of interest.

This machine will punch holes near the edge of angle and flange iron and around the edge of a five-inch pipe or ring. Lever will work from front or back; has steel eccentric, steel plunger, steel eccentric yoke and box, three sets of quick adjustable dies and punches, and back and side



GENERAL-PURPOSE PUNCH.

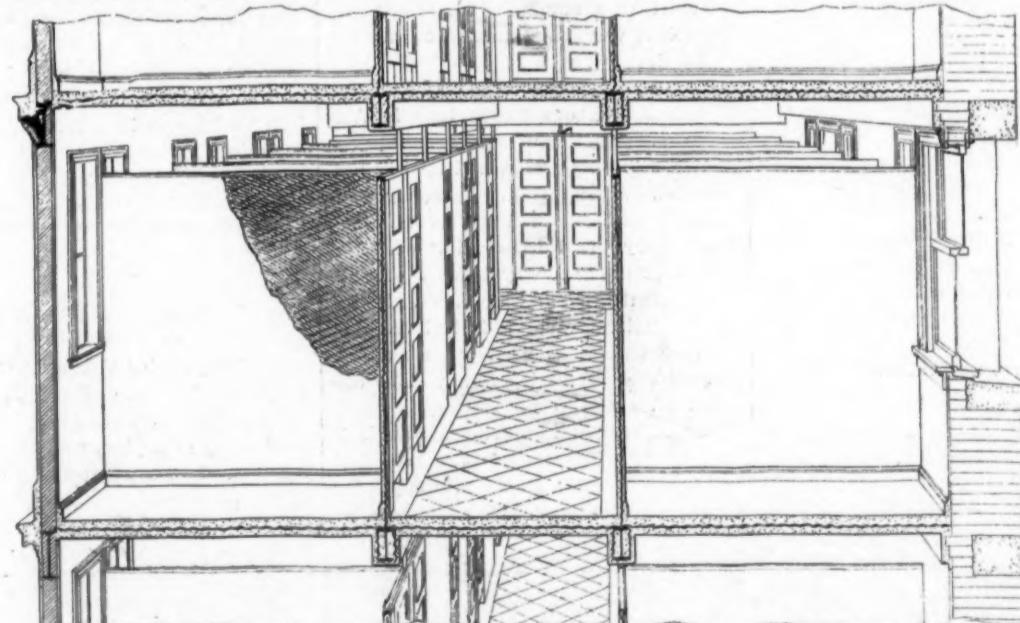
gauges for punching holes of equal distance apart without marking off. A mark on the work can be readily seen, as the stripper, or take off, is placed behind the plunger, and is arranged to afford ample light. The machine will easily punch a half-inch hole in three-eighths iron, as the eccentric has short movement, which makes it a powerful punch. The machine is made with the punch-plunger bearing and die seat made adjustable, which are features adding to its life, and decreasing the liability of chipping or breaking punches. Any lost motion in the plunger bearing can be



PORTABLE PIPE CUTTER AND THREADER.

distributed that, when imbedded in concrete or mortar, the strength of the combination is enormously enhanced. The use of expanded metal in concrete as a

appearance, as well as the durability, of the most expensive construction, at a cost relatively merely nominal. The same considerations that induced the imbedded



CROSS-SECTION OF PART OF THE D. O. MILLS HOUSE.

binding material multiplies, it is claimed, its power of resistance to lateral strains at a rate varying from eight to ten times, and its introduction opened to architects

use of expanded metal in the statuary on the grounds, in the construction of the model war ship, and on the exterior of many of the principal buildings at the

taken up and the die seat so adjusted that the punch will always enter the die centrally.

The manufacturers, Messrs. Bertsch &

Co., of Cambridge City, Ind., will be pleased to supply any further information or prices.

Bliss Embossing Press.

Among the recent new machines is an improved press, especially adapted for embossing silver, britannia, brass, cop-

pounds of dry steam per horse-power per hour, with steam at 150 pounds boiler pressure, and not less than 140 pounds steam at throttle valves, steam to be commercially dry and contain not over 2 per cent. moisture, vacuum in condenser to be not less than twenty-six inches, and the load on engine to be

M. At night the fires were banked in the usual manner, and no steam was drawn from the tube boilers concerned in the test, except that required for the jackets of the engine, which it is the practice to keep constantly heated.

The data and results of engine and boiler test for 14.27 hours' period was as follows: Date, September 10, 1897; duration, 14.27 hours; weight of dry coal consumed, 11,080 pounds; dry coal consumed per hour, 776.5 pounds; average indicated horse-power developed by engine, 660.1 horse-power; coal per one horse-power per hour for period of 14.27 hours, 1.18 pounds.

The data and results of feed-water tests were: Date, September 10, 1897, A. M.; duration, 5 hours; total weight of feed water consumed, 39,654 pounds; weight of water consumed per hour, corrected for leakage of ninety-six pounds, 7834.8 pounds; indicated horse-power developed by both cylinders, 639.1 horse-power; average pressure in steam pipe, 150.2 pounds; number of degrees superheating, 12.2 degrees; vacuum in condenser, 26.6 inches; number revolutions per minute, 80 revolutions; mean effective pressure high-pressure cylinder, 61.9 pounds; mean effective pressure low-pressure cylinder, 10.2 pounds; feed water consumed per indicated horse-power per hour, 11.39 pounds.

A further complete description, with interesting figures showing the high efficiency of the Greene-Wheelock engine in this test, is given at length in a type-written brief now being distributed by the American Wheelock Engine Co., and to present and prospective users of engines it contains much valuable information that may be of assistance when about to order new machines of this class.

A New Lathe.

Machine-shop managers on the lookout for new devices should direct their attention to the new 22-inch lathe built by Dietz, Schumacher & Boye, of Cincinnati, Ohio. The builders call particular attention to the new feed device, which

ration, and vice versa. All parts of the lathe are strong enough to stand the greatest strain, and, it is claimed, the belt will slip before a break would occur.

This lathe is furnished with compound rest only. Taper attachment, of the latest design and always ready for use, is furnished at a small additional cost. Friction countershaft of superior quality is furnished with each lathe. Weight of this machine, on an eight-foot bed, is above 4000 pounds. For further information address the builders.

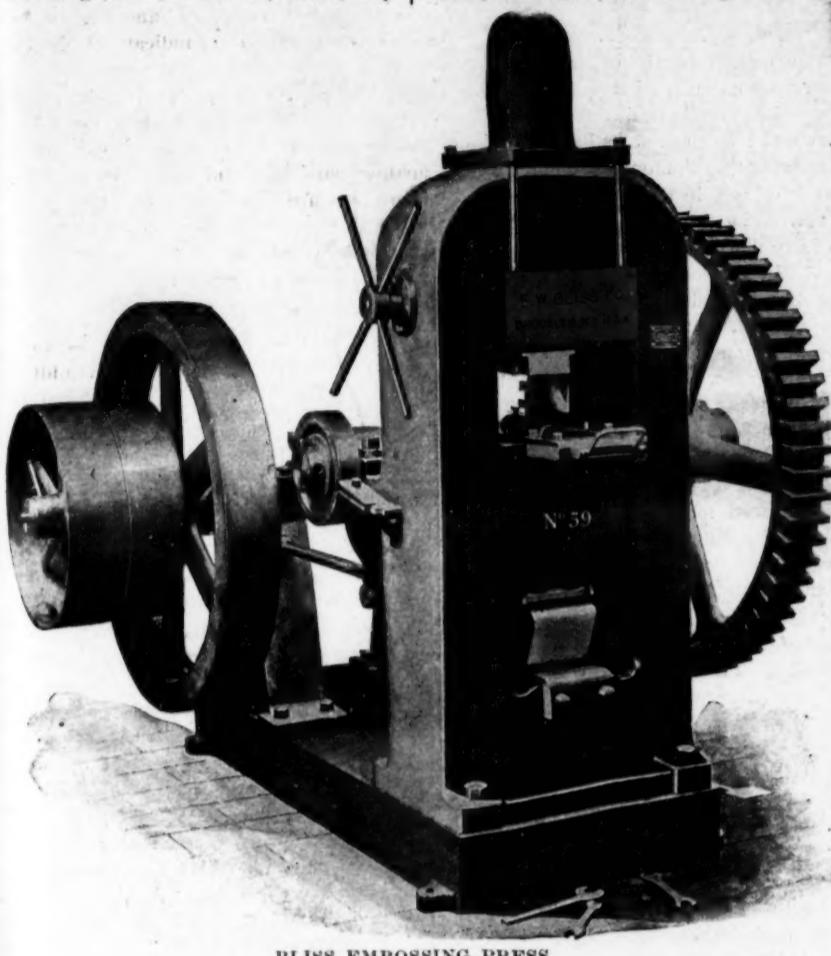
The Angle Lamp.

It is sometimes as unwise to be too progressive as to be too old-fogieish. There is a medium course that is pretty apt to be the best course in the end. Many manufacturers who desire a brilliant light for their factories conclude that electricity is the only thing. Perhaps they have tried lamps and found them unsatisfactory. Now the manufacturer of the Angle lamp claims that there is no lamp that in any way approaches it. The unique features of this lamp certainly gives color to this claim. The



THE ANGLE LAMP.

flame burns at an angle of about forty-five degrees to the fixture, thus insuring all the light falling on the work and the entire absence of any under-shadow. It may also be lighted without removing the globes, and may be filled without moving and while lighted. The cost of maintenance is about eighteen cents a month, which makes it most economical. It throws off very little heat, and there is no smoke and no odor. It is a most serviceable lamp for factories, and it would be well for manufacturers who wish a splendid light at a very moderate cost to write to the maker, the Angle Lamp Co., 76 Park Place, New York city.



BLISS EMBOSSED PRESS.

per, etc., in the manufacture of medals, coins, regalia, jewelry, silverware and other similar work. This press has a massive arch frame cast in one piece, the uprights having a cross section of 12x7 inches. The die is fastened to the slide, which is actuated from below by means of powerful toggles. These toggles are made of steel castings, having hardened tool steel pieces set in at the seats and joints. The adjustment for pressure and die space is effected by means of steel wedges between the punch-holder and frame. The press is intended for a pressure of about 300 tons. Its principal dimensions are as follows: Distance between uprights, fourteen inches; throw of shaft, five and one-quarter inches; stroke of slide, one inch; greatest space, eight inches; diameter of balance wheel, forty-five inches; weight of balance wheel, 1100 pounds; gearing, five to one; floor space, F. and B. by R. and L., 7x5 feet; height, six feet eight inches; total weight, about 9000 pounds.

This machine is built by the E. W. Bliss Co., 137 Plymouth street, Brooklyn, N. Y., which will be pleased to give further particulars.

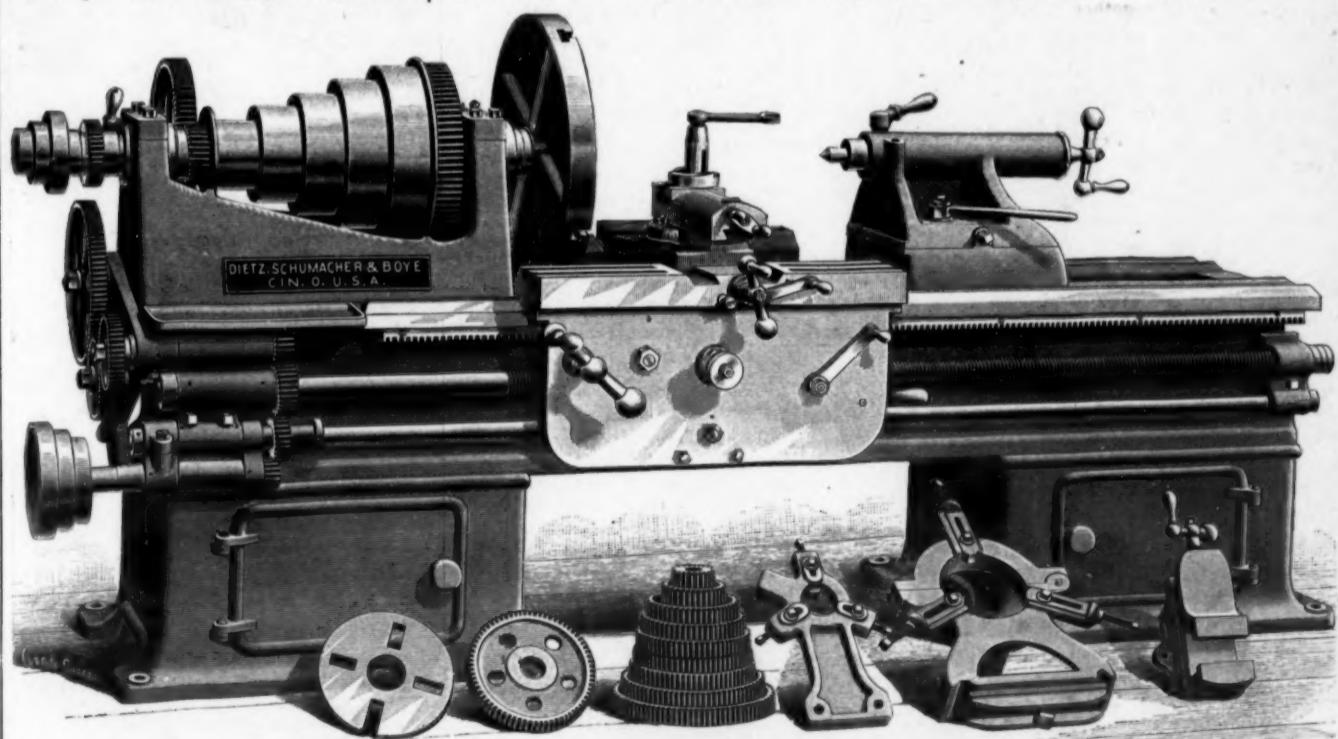
Test of Wheelock Engine.

A summary is now being distributed of a test made by Mr. George Barrus, of Grosvenor-Dale, on one of the compound engines made by the American Wheelock Engine Co., of Worcester, Mass. The engine is known as the Greene-Wheelock engine, with Hill valve gear, and it is well known with much favor by users of power in this country.

The test made by Mr. Barrus was for the purpose of ascertaining whether the engine fulfilled the guarantee of the builders as to economy. The guarantee was "a duty of twelve and one-half

within its economical range." The specifications accompanying the contract fixed the most economical load at 650 horse-power.

The guarantee tests were simple feed-water trials, and these were divided into three periods of exactly five hours each. Data upon the work of the boilers was



A NEW LATHE.

also obtained, so as to make the tests a full trial of the complete plant. This trial was commenced at noon September 8, and ended at the same time September 10, after a working run of forty-eight hours. During this time the engine was run each day from 6.40 A. M. to 12 M., and from 12.40 P. M. to 6 P.

enables the operator to use either the belt or gear feed, with which very fine or very coarse feeds can be obtained immediately.

The cross feed and length feed can be worked together or separately, without injury to the lathe. The rod feed cannot be used if the lead screw is in op-

The question of sugar-beet raising in Virginia recently received much encouragement at a meeting of farmers held at Chester, Va. Addresses were made by Thomas Whitewood, commissioner of agriculture, and others, on the advisability of raising beets in Tidewater Virginia.

TEXTILES.

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

SOUTHERN COTTON MILLS

Enjoying Prosperity Almost Unparalleled in Their Section.

At the present time it is stated by those who are in a position to know, that the cotton mills in the Southern States are enjoying a period of prosperity which is almost without parallel in the history of textile manufacturing in this section. From time to time reports have appeared in the daily press referring to the action of spinners in the South in curtailing production. These and other statements may have led the general public to believe that this branch of industry is not in as good condition at present as two years ago for example, but it would seem that the contrary is the case. The manager of one of the largest yarn and cloth-buying houses in the country, which handles the entire output of a number of the most important Southern mills, recently informed a representative of the Manufacturers' Record that the majority of the yarn mills in the South are now working overtime in order to meet the demand for their productions. While the raw material has been quoted at such a low figure that they have been able to buy at a very great advantage, the prices of yarn especially has been held at such quotations that the manufacturers have realized larger profits than at any time for many years.

Referring to the activity among the various plants, the gentleman in question said: "One mill which we control has orders ahead for the next six months; in fact, we have sold its entire product up to that time. Several of the other mills we have sold from two to four months ahead, and in order to meet the demands every factory which we represent is now working overtime, anywhere from four to eight and ten hours daily. I find, upon inquiry, that the same condition is true as regards other mills, and that we know of no concern which has not a brisk demand for Southern goods. I can give an instance of a factory in South Carolina which makes a specialty of carpet yarns, whose entire product is taken by a carpet factory on the Hudson river, in New York State, as fast as it can be turned out. One reason for the active demand for Southern yarns and cloth is that the manufacturers are keeping their goods up to a very high standard, and in most instances are using the very best machinery for this purpose.

"As to the question of the South overproducing textiles, I believe that there are excellent opportunities still for the erection of very large mills in the South. To my mind the city of Baltimore is an excellent site for a cotton mill of fully 1,000,000 spindles, which should be located at Canton, where it will have the advantage of both land and water transportation, and where the raw material can be brought direct to the place by vessels. Such a mill, if properly managed, should be a success from the start."

English Cotton Goods.

The falling off in the British cotton trade is indicated by the following statistics, given out by the Manchester committee: "The lessened takings of India for the past nine months in piece goods has been 303,000,000 yards, a decline of 19 per cent. in the corresponding period of 1896. South America shows a falling off of 170,000,000 yards, or 29 per cent. that for the same time last year. The total shipments to all countries for the nine months ending September 30, 1897, was 3,551,359,100 yards, as against 3,972,126,300 yards in the corresponding period of 1896, showing a decline of 420,767,200 yards." While this is the situation in England that has caused the suspension of numerous mills in Lancashire, Cheshire, Yorkshire and Derbyshire, and in many instances the breaking up of the machinery, the production of cotton goods in this country is steadily and largely increasing. Such statistics are most convincing evidences of the present trend of the cotton-manufacturing industry.

Northern Capital in Southern Mills.

Mr. George P. Taylor, of Clinton, Mass., for many years agent of the Lancaster Mills in that city, resigned his position with the company last month. Mr. Taylor's intentions are to engage in cotton manufacturing, and, while there has been no definite announcement where the new mill is to be located, his friends understand that he has practically settled upon a city in the Southern States. Another New England cotton manufacturer, whose name will be announced later, will be interested with Mr. Taylor.

Textile Notes.

Mr. H. A. Cook, of Charlotte, N. C., operating a bagging and tie mill, intends adding a cotton-battening department to his factory.

The Hadley-Peoples Manufacturing Co., of Siler City, N. C., is installing a dynamo for lighting its mill, which is now running day and night.

The Charleston Knitting Mill, at Charleston, S. C., has been sold at auction, being bought in by Mr. George W. Williams, representing the bondholders. The company will be reorganized and put the plant in operation.

The Charleston Knitting Mill Co., of Charleston, S. C., has been incorporated, with capital stock of \$25,000, to put in operation the Charleston Knitting Mill, lately purchased at public sale by Henry P. Williams. Mr. Williams, W. Gregg Chisolm and T. L. Dodd are the incorporators.

The shuttle-block factory of Mr. L. A. Weedon, recently removed from Fayetteville to Wilmington, N. C., began operations on the 16th inst. The plant will turn out from 2500 to 4000 shuttle-blocks per day. Mr. Weedon also manufactures blocks for wrench handles and bobbins.

The Clinton Cotton Mills of Clinton, S. C., is now putting in place the 5000 additional spindles decided upon some months ago. The mills' spinning and carding departments are running day and night in order to keep up with the 286 looms, which are operating on three-leaf twill, tape selvages, etc.

The stockholders of the Dallas Manufacturing Co., of Huntsville, Ala., held their annual meeting on the 9th inst. The old officers and directors were re-elected. Mr. T. R. Dallas, general manager and treasurer of the company, submitted his report showing the business to be in a good condition. A semi-annual dividend of 3 percent. was declared, payable at once.

COTTONSEED OIL.

This department is open for the full and free discussion of trade topics and practical questions, and contributions are invited from men who are identified with this industry. Items of news are always acceptable.

The Market for Cottonseed Products.

New York, November 16.

The market continues dull and spiritless, with a decided bearish aspect. The low prices are beginning to interest shippers and important sales have been made for January shipment. Summer yellow has been sold in quantities as low as 21 cents, while Atlantic mills are reported to have disposed of forty tanks of crude on a 14-cent basis. Heavy arrivals from the South tend to still further depress the market, storing being resorted to in many instances rather than accept the prevailing low prices. Lard is dull and easy at 4.25 cents here and 4.35 cents Chicago, January delivery. Tallow has declined to 3½ cents, while we have heard of sales at 3 1-16 cents. The situation with regard to cotton oil is a complex one. The difficulty in obtaining ocean freight accommodation, heavy arrivals from the South, together with weak markets for hog and beef fats, each contribute their quota in causing the depression. The removal of quarantine restrictions in the South, now that the yellow-fever scare has subsided, on the one hand, and the heavy receipt of hogs at central points in the West, render the outlook for improvement in prices for cotton oil somewhat doubtful, at least for the immediate future. With a better understanding between the crusher and refiner it has been demonstrated that a stronger market for cotton would undoubtedly obtain. The attitude of the big Western packers in their manipulation of animal products of an edible nature has also tended to check speculation in these articles, with the result that prices are low, cotton oil in sympathy responding. The following are closing prices: Crude, 18½ cents; crude, loose, f. o. b. mills, 14 to 15 cents; summer yellow, prime, 21 to 21½ cents; summer yellow, off grade, 20½ cents; yellow, butter grades, 25 to 26 cents; white, 24 to 25 cents; white winter, 28 to 29 cents; winter yellow, 27 to 28 cents, and salad oil, 27 to 29 cents. The storage capacity of New York is about absorbed, and, according to the Journal of Commerce, "the large producer who has been bearing this market so unmercifully of late through its brokers seems to think prices are low enough now since seed is low enough." Liverpool refined oil is quoted at 15/ with a dull market. Exports aggregate 8750 barrels and arrivals 10,490 barrels.

Cake and Meal.—Interior points Texas quote cake at \$12.75 to \$13 per ton prompt shipment, and 25 to 50 cents per ton extra for future delivery. At this market meal is quoted at \$19.50 to \$20 per ton.

Cottonseed-Oil Notes.

The steamship Kendal sailed from Galveston, Texas, last week with 21,200 sacks of cottonseed oilcake, and the steamship Navigator for Liverpool with 14,651 sacks.

The Alabama Cotton Oil Co. has just closed its season of repairs to its plant, having added a large amount of new machinery. The company commenced operations last week, and is now in a position to fill orders promptly for all cottonseed products.

At New Orleans the market for cottonseed products is quiet, with an easy tendency and limited demand for home and export trade. Receivers' prices are

quoted as follows: Cottonseed, \$8 per tons of 2000 pounds net to the mills, no commission of any kind to be added; cottonseed meal jobbing per carload at depot, \$18.50 to \$19 per short ton of 2000 pounds; for export per long ton of 2240 f. o. b., \$19.25 to \$20.25; oilcake for export, \$18.50 to \$19 per long ton f. o. b.; crude cottonseed oil at wholesale or for shipment, strictly prime in barrels per gallon, 17½ to 18 cents; loose, per gallon, 15½ to 16 cents, according to location of mill; refined cottonseed oil, prime in barrels per gallon at wholesale or for shipment, 23½ cents; cottonseed hulls delivered per 100 pounds, according to location of mill, 10 to 15 cents; linters, according to style and staple—A, 3½ cents; B, 3½ cents; C, 2½ to 3 cents; ashes, none.

The market for cottonseed products in Texas continues to decline, and cottonseed oil is quoted at 13½ to 14 cents for prime crude. Manufacturers refuse to sell at the prices now offered, and both crude and refined oil are held for higher figures. The Houston Post, in its review of the market, says: "Texas oil mills are now holding prime cottonseed oil at 13½ to 14 cents, and prime summer yellow at 17 cents f. o. b. interior points. Bids are fully a cent below these quotations. These are the lowest prices ever recorded, and are considered below the cost of production. The sharp decline in this State was in response to the break in prices at New York and the large offerings from the Atlantic States. There has been a very decided slump in the New York market, carrying prime summer yellow down to as low a figure as 21½ cents." At the close of the market on the 13th the tone was steady at the decline, with a moderate demand. Quotations ranged as follows: Prime crude oil, loose, 13½ to 14 cents; prime summer-yellow oil, 16½ to 17½ cents; prime cottonseed cake and meal, \$12.50 to \$14 per short ton; linters, per pound, 2 to 2½ cents. Above prices are f. o. b. mill Texas interior points, according to location.

The annual report of the American Cotton Oil Co. for the fiscal year ending August 31, 1897, was issued on Monday last, and made an excellent showing. The report shows that no changes have been made in outstanding common and preferred stocks or debenture bonds. All the properties are absolutely free from mortgages, and there are no liabilities for loans or bills payable. The permanent investment account shows a net decrease of \$35,243, the expenditures being \$93,281 for additions to properties, and the receipts from sales of real estate, etc., were \$128,528. The losses from bad debts were less than one-eighth of 1 per cent. Chairman George A. Morrison in his report says that during nine months of the year the company suffered from the general business depression, and the gains were due to the last quarter. Fair prices were obtained. More than one-third of the total value of the output is in cake and meal, which continued to gain favor for cattle feeding and fertilizing purposes. The physical condition of the working plant is now better than it has been. The officers of the company are as follows: George A. Morrison, president and chairman of the board of directors; Robert F. Munro, vice-president, and Justus E. Ralph, secretary and treasurer.

It is proposed to revive the project to erect a large cotton bleachery at Augusta, Ga. Such well-known cotton-mill men as Thos. K. Barrett, Jr., Charles Estes, Landon Thomas and J. P. Verdery are interested.

CONSTRUCTION DEPARTMENT.

THE MANUFACTURERS' RECORD
 seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the Manufacturers' Record.

It often occurs that the organization of a new company in any town is not known by the postmaster, and hence letters addressed to the company are returned marked "not known." The Manufacturers' Record reports the first organization of all companies, and our readers, in seeking to get into communication with them, should be very careful in deciding how to address them, and even then they must expect the return of some letters, because of the lack of knowledge on the part of postmasters of all new companies. Criticisms and complaints are invited, as they will the better enable us to guard against errors.

Cotton Mill.—George P. Taylor, agent of the Lancaster Mills at Clinton, Mass., has resigned his position with the company with the intention of engaging in cotton manufacturing in the South. No location for the proposed plant has been considered as yet and may not be for several months. A prominent New England mill man will be interested with Mr. Taylor.

ALABAMA.

Bessemer—Electric-light Plant.—H. G. Meumann has decided to erect a plant for electric lighting and has applied for city franchise.

Bessemer—Iron Furnaces, etc.—A report states that the Howard-Harrison Iron Co. will purchase more iron ore lands, open mines, erect two more iron furnaces and enlarge its pipe works; present capacity of this pipe plant is 200 tons daily. (The company telegraphs the Manufacturers' Record that it cannot confirm the report.)

Lafayette—Foundry.—Cox & Ray, of Wise, Ala., have removed their foundry to Lafayette and commenced operations.

Leeds—Iron Mines.—The directors of the Sloss Iron & Steel Co. decided at a meeting held during the week to develop new iron mines near Leeds. A railroad will be constructed at once to facilitate the arrangements for the development.

New Decatur—Foundry, etc.—The Alabama Foundry and Machine Works, noted last as to enlarge its plant, will probably expend \$10,000 on the improvements.

New Decatur—Foundry and Machine Works.—The Alabama Foundry and Machine Works has been organized by Huntsville parties, with capital stock of \$50,000, and purchased the Ivens Machine Works at New Decatur, with the intention to equip it as a complete foundry and machine works and put it in operation. The incorporators are W. L. Weilman, S. J. Mayhew, O. B. Patton, J. R. Stevens, C. L. Nolen, Ed E. Greenleaf and J. B. Harrison. B. F. Holmes is secretary-treasurer and J. B. Harrison president. Address the latter at Huntsville.

ARKANSAS.

Batesville—Compress.—Chartered: The Batesville Compress Co., with a capital stock of \$30,000. The directors are Theodore Maxfield, J. W. Fletcher, J. N. Barnelet, C. T. Rosenthal, J. C. Rosenthal, J. C. Yancy, G. T. Heard and C. B. Ames; officers: J. W. Fletcher, president; Theo. Maxfield, vice-president; Ernest Nelli, secretary; John W. Q. Wolff, treasurer. Address the secretary.

Fulton—Shingle Mill.—The Fulton Shingle Co. will be organized to erect a shingle mill. Address the company, care of J. D. Babbitt.*

FLORIDA.

Pensacola—Saw Mill.—John W. Burge has erected a saw mill on Barcelona wharf.

Pensacola—Saw Mill.—Hugh B. Hatton will erect a planing mill.

GEORGIA.

Augusta—Water Works.—M. T. Lewman & Co., of Atlanta, Ga., and Louisville, Ky., have made the lowest bid for the construction of the city water works, at \$262,288.

Augusta—Restaurant.—Hal P. Shewmake and M. A. Shewmake, of Augusta, and W. J. Shewmake, of New York, have incorporated the Inn Restaurant, authorized capital \$5000, to conduct a restaurant.

Augusta—Cotton Bleachery.—It is proposed to revive a cotton bleachery project which was promoted several years ago by Messrs. Thos. K. Barrett, Jr., Landon Thomas, J. P. Verdery and Charles Estes.

Augusta—Water Works.—Contract for the construction of the proposed water works has been let by the city to the C. H. Eggle Co., of 17 Central street, Boston, Mass., and Capt. J. A. Twiggs, of Augusta, Ga., at \$293,100.

Columbus—Fertilizer Factory.—Messrs. H. Bussey & Son will erect a large fertilizer factory in Columbus.

Fitzgerald—Cigar Factory.—Fred J. Clark and J. G. Knapp are negotiating for the establishment of a cigar factory.

Marietta—Paper Mills.—The Marietta Paper Manufacturing Co., noted last week as to increase its capital stock from \$150,000 to \$250,000, will arrange for improvements to its mills, but just what additional machinery will be needed has not been decided upon.

KENTUCKY.

Ashland—Stave Mill.—J. W. Hutchinson, of Rodbourn, Ky., will erect a stave mill in Ashland. Address at Rodbourn.

Covington—Carriage Goods Company.—The Standard Carriage Goods Co. has reorganized under the laws of West Virginia as the Higgins Manufacturing Co. The incorporators are Henry Higgins, John B. Tangeman, J. V. Maescher, Adam Lepper, William Maescher, H. Scherer, C. H. Landdale, Adam Grossman and Henry Faber.

Louisville—Chain Works.—The establishment of chain works is contemplated. For information address James Chains, care of general delivery.*

Middlesborough—Iron Works.—It is not decided whether the South Boston Iron Works will be rebuilt or not. E. Johnson, secretary, can be addressed for information.

Middlesborough—Iron Furnaces to Resume.—Concerning the report, mentioned last week, that the Watts Steel & Iron Syndicate intends to put its plant in operation, we are informed of the truth of the dispatch. C. P. Perrin, formerly of the Corona Coal & Coke Co., of Birmingham, Ala., has been appointed general manager of the syndicate, and a force of men is now at work cleaning up and making arrangements at the mines and furnaces for operations. Furnace No. 1 will probably blow in by December 1, and furnace No. 2, partially completed, will be finished and put in blast early next year. The steel plant will not be operated for the present.

Oakton—Flour Mill and Elevator.—Reports are current that a flour mill and grain elevator will be erected at a cost of \$25,000. It is said that a Mr. Fletcher is interested.

LOUISIANA.

New Orleans—Wharf Company.—The Mandeville Lake-Line Co., capital stock \$100,000, has been incorporated to build and operate wharves, piers, etc.; Adolphe Rocquet, president; Johnston Armstrong,

vice-president, and M. J. Guerin, Jr., secretary.

MARYLAND.

Baltimore—Glass Works.—Incorporated: The Henrietta Window Glass Co., by John J. Higgins, Nicholas Weller, Jr., William II. Button, Sr., George W. Voigt, Leopold Braun, Harry Button and Frank Ware, to manufacture an improved glass-making tank furnace and glassware and window glass. The capital stock is \$100,000.

Williamsport—Light and Water Works.—The city will petition the legislature for authority to issue bonds for water works and electric-light plant. Address the mayor.

MISSISSIPPI.

Greenwood—Bridge.—The supervisors of Leflore county have located site for an iron drawbridge, and Messrs. Hasle & Young will prepare plans and estimates for the structure. G. E. Williamson, clerk to court, can be addressed.

Jackson—Water Works.—The city election on water-works bonds has been postponed from September 28 to November 17. Bonds for \$65,000 are proposed. Address the mayor.

Meridian—Oil Mill.—The Meridian Fertilizer Factory has decided to build an 80-ton cottonseed-oil mill, and will at once arrange for the letting of contracts to complete same.*

MISSOURI.

Carthage—Furniture Factory, etc.—The Commercial Club has closed negotiations that will ensure the establishment of a furniture factory to employ fifty hands, and a sash and door factory and planing mill to employ twenty hands.

Carthage—Bed-spring Factory.—The Liggett & Platt Bed-spring Factory will double its present capacity and employ thirty-five hands.

Excelsior Springs—Telephone System.—J. C. and C. H. Coopinger, R. W. Hood and others have incorporated the Enterprise Telephone Co., with capital of \$3000.

Joplin—Mining Company.—James B. Calley, W. V. Callery, M. K. McMullin and others have incorporated the Duquesne Mining Co., with capital stock of \$60,000. Address James B. Callery.

Kansas City—Woolen Mill.—J. F. and J. T. McAfee, George Neil and others have incorporated the Topeka Woolen Mill Co., with capital stock of \$37,000.

Norborne—Water Works.—The city will hold an election November 30 to vote on \$10,000 in bonds for the construction of water works; N. P. Evans, mayor.

St. Louis—Lead Company.—E. R. Hoyt and others have incorporated the Meramec Lead Co., with capital stock of \$300,000.

St. Louis—Land Company.—Chartered: The Missouri Exploration & Land Co., capital stock \$50,000, by J. B. Johnson, H. J. Cantwell, Edward White, F. W. Carter and W. B. Swan.

St. Louis—Electrical Works.—The Electric Third Rail & Signal Co. has been incorporated to introduce and manufacture apparatus for the operation of the Seaton third-rail electric system for street cars. Capital stock is \$250,000. B. S. Seaton, St. Louis, can be addressed.

St. Louis—Aluminum Works, Bicycle Factory, etc.—The St. Louis Aluminum Casting Co., noted last week, has chosen officers as follows: Otto Stifel, president; L. J. Crecelius, vice-president; G. A. Plans, secretary, and Theo. Crecelius, manager and superintendent. The company will manufacture gear-cased bicycles and aluminum castings of every description; office of company at 815-817 South Eleventh street.

NORTH CAROLINA.

Asheville—Graphite Mines.—The American Graphite Co. will develop, as reported last week, graphite lands in McDowell county. Maj. George D. Miles is president; Dr. F. W. Ihne, vice-president; G. A. Williams, secretary, and John E. Norton, treasurer, all of Chicago. Address Maj. George D. Miles, president, American Graphite Co., Asheville, N. C., or Dr. F. W. Ihne, Chicago, Ill.

Charlotte—Batting Factory.—H. A. Cook will add a batting factory to his tie and bagging mill.

Greensboro—Gold Mine.—I. H. Stanley and Joe Mitchell, of Greensboro, N. C., have

sold the Fentress gold mine in Sumter county to Rev. W. F. Anderson and Eugene Carl, of New York, for \$6000. Address Mr. Stanley.

Mount Pleasant—Cotton Mill.—The contemplated additional machinery of the W. R. Kindley Cotton Mills will necessitate a new 80-horse-power boiler.

Sanford—Gold Mines and Broom Factory.—J. M. Stephens has established a broom factory and commenced the development of gold mines.

Wilmington—Steam Laundry.—H. B. Howie, of Chester, S. C., contemplates the establishment of a steam laundry in Wilmington. Address at Chester.

SOUTH CAROLINA.

Charleston—Knitting Mill.—George W. Williams, Jr., representing the stockholders, has purchased the Charleston Knitting Mill and reorganized the company to put the mill in operation; will incorporate as the Charleston Knitting Mills Co.; capital stock \$25,000.

Yorkville—Electric-light Plant.—The city has completed arrangements for the erection of an electric-light plant; contract for machinery has been awarded.

TENNESSEE.

Dayton—Furnace Improvements, etc.—The Dayton Coal & Iron Co. has commenced improvements to its furnaces, including cleaning and relining No. 2 furnace; both furnaces will be put in blast, making 260 tons of iron daily. It is said that 800 hands will be employed.

Dickson—Stave Mill.—The Crescent Stave Co. has been organized by T. C. Seaman and L. P. Shaw, and will establish a stave factory.

Harriman—Baking-powder Factory.—J. P. Fehr, late of Atlanta, Ga., will establish a baking-powder factory in Harriman. Address Mr. Fehr, care of Flanders Manufacturing Co., Harriman.

Kingston—Water Works.—The city council has appointed a committee to consider a proposition from a Cincinnati company for the construction of water works. Address the mayor.

Loudon—Electric-light Plant.—Ulrich Ita contemplates the establishment of an electric-light plant.

McKenzie—Water Works.—The water works proposed, as lately noted, will probably be constructed. Address the town clerk.

Morriston—Tannery.—The Unaka Tanning Co. has been organized by John K. Shields, R. E. L. Mountcastle, J. N. Fisher, D. P. Turner and W. D. Bushong, to establish a tannery. Address the first-named.

Nashville—Lock Company.—J. J. Davidson, J. D. Cason, D. B. Read and others have incorporated the Davidson Lock Co.

Tulahoma—Electric-light Plant.—The city has awarded contract to E. J. Mitchell, of Huntsville, Ala., for the erection of an electric-light plant.

TEXAS.

Amarillo—Live Stock Company.—W. R. Clements, N. Connally and W. C. Kenyon have incorporated the Green Valley Live Stock Co., with capital stock of \$20,000.

Beaumont—Telephone System.—R. H. Wentworth, Warren McDaniel, J. H. Baxter, George S. Blaine, R. N. Wentworth and H. P. Bennet have petitioned the county commissioners for franchise to establish telephone systems, etc.

Brenham—Saw Mill.—The Brenham Manufacturing Co. is putting in a saw mill of 15,000 feet daily capacity.

Columbus—Steam Laundry.—H. C. Mix has established a steam laundry at Spring and Bowie streets.

Corsicana—Oil Wells.—W. A. Long and others have incorporated the W. A. Long Oil Co., with capital stock of \$5000, to drill for oil, etc.

Dallas—Gas-generator Works.—The Sunlight Gas Co., George Taylor, general manager, will engage in the manufacture of a generator for acetylene gas; will need tools, etc.*

Dallas—Gold Mines.—Chartered: The Texas Prairie Gold Mining & Investment Co., for the purpose of locating, claiming, owning and operating mines of all kinds; capital stock \$4000; incorporators: William

Dooschel, W. F. Dougherty and J. E. Mittenal. Address the last named.

El Paso—Mercantile.—H. P. Michelson and others have incorporated the H. Levin-sky Co., for mercantile purposes; capital stock \$60,000.

Harrisburg—Box Factory.—P. H. Finley, of Dallas, Texas, will establish a basket and box factory in Harrisburg.

Henderson—Mercantile.—Filed: The charter of the Henderson Mercantile Co., to buy and sell goods, etc.; capital stock \$20,000; incorporators: L. Berwald, of Dallas; J. D. Crawford, of Marshall; L. A. Dreeben, of Henderson; Sam A. Joseph, of Mineola; Seymour Meyers, of Dallas, and Israel L. Dreeben, of Henderson.

Jacksonville—Cannery, Woodworking Factory, etc.—D. T. Kirkpatrick (formerly of Galveston) is negotiating for the Jacksonville cannery and will manufacture preserves and pickles and the Kirkpatrick cold-air refrigerator fruit box, etc. The Kirkpatrick Fruit & Manufacturing Co. will be incorporated, with capital stock of \$50,000, to operate the plant.

Rockport—Telephone System.—Incorporated: The Rockport & Gulf Coast Telephone Co.; its purpose the construction and operation of a general telephone system throughout the city of Rockport and to be extended into and operated through the counties of Aransas, San Patricio, Refugio and Nueces; incorporators: S. P. Sorenson, A. L. Bruhl, E. A. Stevens, D. Herzfeld and R. P. Bracht, all of Aransas county; capital stock \$2000. Address A. L. Bruhl.

Wharton—Cotton Ginnery.—Sorrel Bros. have erected a building 36x60 feet of corrugated iron and put in machinery for ginning.

VIRGINIA.

Churchland—Land Company.—Incorporated: The Churchland Land Co., to acquire and lay out property in streets and building lots, build houses, etc. The company is capitalized at \$5000, and Henry Kirn is president; R. N. Norfleet, vice-president; John E. Peake, treasurer; R. T. Hargrove, secretary.

Harrisonburg—Carriage Factory.—The Harrisonburg Carriage & Livery Co. has been organized to conduct a livery business and build carriages.

Lynchburg—Brass Works.—The Lynchburg Brass Manufacturing Co. has been incorporated, with capital stock of \$15,000 and privilege of increasing to \$25,000, for the purpose of manufacturing brass goods, etc. John F. Slaughter is president; William Hurt, vice-president; E. O. Bayles, secretary-treasurer, and E. S. Whiting, general manager. The company is the reorganization of the Maryland Brass Manufacturing Co., which lately arranged for the removal of its plant to Lynchburg. Address the manager.

Newport News—Sewerage System.—The proposed sewerage system is to cost about \$80,000, and Alexander Potter, 137 Broadway, New York city, will prepare the plans and specifications.

Norfolk—Land Company.—The Fairmont Land Co. has been incorporated, capital stock \$5000, with J. T. McGraw, of Grafton, W. Va., vice-president, and J. E. Watson, of Fairmont, W. Va., secretary, etc.

Norfolk—Bridge.—The city board of harbor commissioners has approved the permit granted to W. R. Mayo, president of the Southeastern & Atlantic Railway, to construct a bridge across the Southern Branch. It is said that \$100,000 will be expended on the structure.

Orange—Flour Mill.—The Orange Mills will expend several thousand dollars in improving its plant, putting in new machinery, etc.

Richmond—Beet-sugar Factory.—A dispatch from Richmond states that the proposed beet-sugar factory, to which reference has been made previously in this department, will cost from \$400,000 to \$500,000, and have a daily capacity of 500 tons, utilizing the products of 6000 acres of land in sugar beets. James B. Pace is interested in the enterprise.

Richmond—Hardware.—The Richmond Hardware Co., capital stock \$20,000, has been incorporated; William H. Parrish, president.

Roanoke—Water Works.—A new company is being organized for the purpose of equipping a water-works plant. W. W. Berkeley can probably give information.

WEST VIRGINIA.

Charleston—Mining, etc.—Incorporated: The Charleston Land & Mining Co., with an authorized capital of \$500,000, by H. A. Robson, of Cotton, Fayette county; L.

Prichard, J. D. Foster, M. Prichard and H. P. Brigwell, of Charleston. Address the last-named.

Cherryrun—Coal Lands.—It is stated that Col. Horace Risley, of Cumberland, Md., has options on coal lands near Cherryrun which may be developed in the near future.

Davis—Drug Company.—Chartered: The F. S. Johnston Drug Co., with an authorized capital of \$10,000, by F. S. Johnston, J. W. Goodsell, Anna B. Smith, J. W. Johnston and William Rady, all of Davis. Address F. S. Johnston.

Parkersburg—Flour Mill.—Chartered: The Novelty Mill Co., with an authorized capital of \$200,000, for the purpose of manufacturing flour, feed, meal and other products. The incorporators are W. Vroman, W. W. Vanwinkle, Edward McCreary, R. L. Neal and Abram Smith, all of Parkersburg. Address W. W. Vanwinkle.

Sistersville—Gas Wells.—Chartered: The Monroe County Gas Co., with \$50,000 capital and privilege of increasing to \$250,000. Address George H. Crawford.

Sistersville—Explosives Factory.—Chartered: The West Virginia Torpedo & Powder Co., with an authorized capital of \$50,000, for the purpose of manufacturing nitroglycerine and other high explosives. The incorporators are J. L. Callahan, of Oakland, Pa.; William O'Brien, of McDonald, Pa.; D. M. Speak, of Alton, Pa.; W. W. Vanwinkle and Robb Alexander, of Parkersburg, W. Va. Address W. W. Vanwinkle.

Welch—Oil Wells.—Chartered: The Williamson Oil Co., with an authorized capital of \$150,000, for the purpose of operating for petroleum and other oils and natural gas. The incorporators are R. B. Williamson, W. G. Williamson and P. H. Killey, of Vivian, W. Va.; Rolf Gerhardt, J. J. Lincoln and H. E. Wilson, of Elkhorn, W. Va.; W. H. Thomas, D. H. Thomas and R. R. Campbell, of Algoma, W. Va.; W. H. Stokes, of Welch, W. Va.; C. Botsford, of Worth, W. Va.; C. S. Angel and James Johnston, of Tidewater, W. Va.; L. H. Clark and T. H. Nelson, of Kyle, W. Va. Address R. B. Williamson at Vivian, W. Va.

BURNED.

Baltimore, Md.—Picture-frame factory of Frederick Bergner & Co.; loss \$75,000.

Beaufort, N. C.—Dry-kilns of Mr. Stein-heller, near Beaufort.

Clinton, N. C.—Veneer factory of A. F. Johnson & Son.

Middlesborough, Ky.—The Middlesborough Foundry and Machine Works; loss \$200,000.

Montvale, Va.—Flour, corn and saw mills of Dr. S. H. Price; loss several thousand dollars.

Nacogdoches, Texas.—Cotton gin of Felix Rusk, near Nacogdoches.

BUILDING NOTES.

Atlanta, Ga.—Plans for the new West End Baptist Church, to cost \$10,000, have been accepted. Fred Wagner can be addressed.

Birmingham, Ala.—Office Building.—The Southern Bell Telephone Co. will either greatly improve its present building or erect a new one.

Currituck, N. C.—Courthouse.—The date of issuing the bonds for the Currituck county's new courthouse has been extended to November 22. William H. Bray, regis-ter of deeds, can be addressed.

Dallas, Texas—Office Building.—The Southwestern Telephone & Telegraph Co. has ordered plans for a new building, to be fireproof, 70x70 feet, two stories high.

El Paso, Texas—Jail.—The county commissioners contemplate the enlargement of the jail at a cost of \$5000 to \$6000. Address the county clerk.

Lafayette, Tenn.—Courthouse and Jail.—The Lafayette Land & Improvement Co. has filed a bond for \$30,000 with the county to ensure the erection of a courthouse and jail on certain conditions.

Louisville, Ky.—D. X. Murphy & Bro. have prepared plans for an addition, to cost \$10,000, to Kentucky Institute.

Louisville, Ky.—Dwellings.—Permit issued to J. E. Bell for \$2000 dwelling, and to Simon N. Jones for \$8000 dwelling.

New Orleans, La.—Dwellings.—Permits issued to Henry Gamotis for \$1000 dwelling; to P. Powers for \$1000 building; to Security Building Association for \$1800 building, and to John Sherman for \$3000 frame building.

Newport News, Va.—Dwellings.—Permits for new buildings granted to D. F. Bell,

J. M. Rogers, W. E. Barrett, Arthur Lee, Brinkley & Wingfield, R. T. Stewart, G. W. Harwood and M. Meyhr.

Salisbury, N. C.—Stores.—C. C. Hook, of Charlotte, N. C., has completed plans and specifications for a block of stores to be built by D. L. Gaskill, of Salisbury.

Sedalia, Mo.—Apartments.—W. S. Epperson (office in Kafe Building) is preparing plans for an apartment building.

Siler City, N. C.—Hotel.—C. E. Johnson is building a hotel.

Smithfield, N. C.—Warehouse.—A company will be formed to build a tobacco warehouse. S. S. Holt can be addressed for information.

Smithville, Va.—P. Thornton Marye, of Newport News, Va., is preparing plans for a fireproof building to be erected in Smithville.

Smithville, Va.—Office Building.—The board of supervisors of Charlotte county, Virginia, invite proposals for the building of a fireproof clerk's office. The building will contain two rooms, provided with metallic furniture. Sealed proposals will be received up to noon on November 27, 1897. Plans and specifications may be seen at the clerk's office, Smithville, or at the office of P. Thornton Marye, architect, Newport News, Va. For information address J. E. Robertson or J. C. Carrington, Smithville, Va.

Springfield, Mo.—Business Block.—Col. John O'Day will erect a brick business block.

Washington, D. C.—Dwellings.—Julius Wenig has prepared plans for two small dwellings for Mrs. Anna B. Gaehler. William A. Kimmel is preparing plans for six houses, to be each three stories high, 20x65 feet, heated by hot water, etc. J. G. Meyers has prepared plans for three residences. H. W. Hardenbergh has been commissioned to make the plans for the \$250,000 enlargement to the Raleigh. A. P. Clark, Jr., has prepared plans for a warehouse for D. L. McCarthy.

Wheeling, W. Va.—Hotel Improvements.—Messrs. Harry W. and Berne McLure will expend from \$30,000 to \$40,000 in enlarging and improving the McLure House; the improvements may not be instituted until next year or even later.

Williamsburg, Va.—Bank Building.—The Peninsula Bank has appointed M. R. Harrell, Robert L. Spencer and H. T. Jones a committee to advertise for bids for plans and specifications for the proposed new bank building.

RAILROAD CONSTRUCTION.

Railways.

Augusta, Ga.—The Augusta & Atlanta Railroad Co. has been formed to construct a railroad between the cities mentioned and is to be about 150 miles in length. The incorporators include W. J. Craig, A. W. Mills, John Ferguson and others. Mr. Craig is general manager of the Charleston & Western Carolina Railroad Co., and it is understood the line, if built, will be for the use of the Atlanta branch of this road.

Bel Air, Md.—It is reported that W. P. Husband has become interested in the proposed electric railway between Havre de Grace and Bel Air by the way of Aberdeen and Churchville, Md. The length of the line will be about seventeen miles.

Bluefield, W. Va.—It is reported that the Norfolk & Western Railroad Co. has decided to build a second track from Bluefield to points in the vicinity, and a contract for four miles of the line has already been let. C. S. Churchill is engineer at Roanoke, Va.

Decatur, Ala.—A correspondent of the Manufacturers' Record states that the contract has been obtained for the proposed railroad between Decatur and Danville. The matter is still being discussed. C. C. Harris may be addressed at Decatur.

Decatur, Ala.—It is reported that the people in Decatur have determined to build a standard-gauge railway, to be operated by locomotives, instead of the dummy line which was at first proposed. The committee in charge consists of W. A. Bibb, A. F. Murray, R. H. Adams and others, of Decatur. Mr. Murray is chairman of the committee. The line will be about fourteen miles long and extending between Decatur and Danville, Ala., as already stated.

Fort Smith, Ark.—It is again reported that the Kansas City, Pittsburg & Gulf Railroad Co. is considering a branch line from Fort Smith to a point on its system. The branch line will be about sixteen miles long. A. E. Stilwell, at Kansas City, is president of the company.

Haylow, Ga.—It is reported that G. S. Baxter & Co., of Haylow, have purchased what is known as the St. Mary's Railroad and will use it as a portion of the Atlanta, Valdosta & Western road. This road is about twenty-three miles long. Baxter & Co. have already let a contract for grading a part of the right of way.

Little Rock, Ark.—It is reported that the Missouri Pacific Railroad Co. has decided to make a survey for a line from Little Rock to Greenwood, Ark., on the Arkansas river. J. C. Kellon is engineer in charge. W. B. Doddridge, at St. Louis, is manager of the company. The branch, if built, will be about 175 miles long.

Llano, Texas.—It is reported that a corps of engineers is now surveying for a railroad from Strawn to Comanche, which will terminate at the Gulf of Mexico and pass through Llano. J. S. Wathan is the engineer in charge.

Louisville, Ga.—The town of Louisville, it is reported, has pledged itself to give \$15,000 towards the building of the railroad line from Wrenn's Station to Louisville. This will form a portion of the Augusta Southwestern system.

Mooresville, N. C.—L. K. Vaughan, of Roanoke, Va., has secured a contract for a portion of the branch of the Southern Railroad between Mocksville and Mooresville and has begun work. C. H. Hudson, at 1300 Pennsylvania avenue, Washington, D. C., is chief engineer of the company.

Morgantown, N. C.—The town has voted in favor of issuing \$20,000 in bonds to insure the building of the railroad from Elizabethton, Tenn., to Shelby. This road is to be 120 miles long and is being promoted by J. Shirley Smith, of Cleveland, Tenn., and others.

Newport News, Va.—It is reported that a charter will be obtained at the next session of the Virginia legislature for another electric road between Newport News, Hampton and the section of country on the west side of the Chesapeake bay.

Norfolk, Va.—A correspondent of the Manufacturers' Record states that the Atlantic & Danville Railroad Co. is about to begin work upon a branch eight miles long from a point on this line to copper mines in Granville county, North Carolina. B. Newgass, at Norfolk, is president of the company.

Selma, Ala.—About three miles of the Atlanta & Alabama Railroad have been graded and a large section is now under contract. H. C. Barksdale is chief engineer, and W. L. Mitchell, of Atlanta, president of the company.

Shelbyville, Tenn.—The question of completing the Middle Tennessee & Alabama Railroad from Shelbyville to Decatur, Ala., has been revived, and it is stated that the company is making arrangements to build the necessary extension. Gaunt Crebs, at Fayetteville, Tenn., is receiver of the company.

Washington, D. C.—President James B. Colegrove, of the Washington, Westminster & Gettysburg Railway Co., advises the Manufacturers' Record that the contract has been let to build this line, which is to be laid with 70-pound steel rails, and is to be of standard gauge. It will be operated by steam power, and is to extend between Washington and Gettysburg by way of Westminster, Md. The company's offices are 47-49 Atlantic Building, Washington.

White Plains, Ga.—It is reported that the East & West Railroad of Georgia project has been revived, and the plan of building a line from White Plains to Davisboro is being agitated. The line has been partly graded. J. W. Preston, of Eatonton, is reported as president.

Street Railways.

Atlanta, Ga.—The Atlanta Electric Railway Co. is considering an extension of what is known as its Lakewood line into the suburbs. Dayton Hale is president of the company.

Beaumont, Texas.—The city council has finally passed an ordinance granting the Beaumont Electric Railroad Co. a franchise to build a line on certain streets of the city. Three miles of the road must be in operation in a year from the time the construction begins. The mayor will give further information.

Jackson, Miss.—The city has closed a contract with parties in Chattanooga, Tenn., to build an electric railway system, also to supply the city with electric lights. Work is to be commenced immediately. It is understood that E. C. Howard, of Chattanooga, Tenn., is the contractor for the improvements.

Kansas City, Mo.—The Northeastern Electric Railway Co. is considering an exten-

sion of its line in the suburbs about six miles. E. G. Vaughan is secretary of the company.

New Orleans, La.—It is stated that the New Orleans & Carrollton Street Railway Co. has recently negotiated a loan of \$250,000 for the construction of an extension of its electric system to Southport, in the suburbs. Joseph Lennes is president of the railroad company.

Parkersburg, W. Va.—The city council has granted a franchise to a syndicate of local parties to build an electric railroad in the town. The mayor will give further information.

Pensacola, Fla.—It is reported that the Pensacola Street Railway Co. has purchased the necessary rails, poles and other equipment for its electric line, and that the laying of track is to begin in December. The work of building a power-house has already begun. W. H. Bosley, corner North and Fayette streets, Baltimore, Md., is president of the company.

Machinery, Proposals and Supplies Wanted.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The MANUFACTURERS' RECORD has received during the week the following particulars as to machinery that is wanted.

Air Compressor.—The Southern Iron and Steel Works, Birmingham, Ala., wants to buy air compressor.

Cans and Glassware.—The Kirkpatrick Fruit & Manufacturing Co., Jacksonville, Texas, wants catalogues and prices on glassware for pickles and cans for tomatoes, etc.

Chain Machinery.—James Chains, care of general delivery, Louisville, Ky., wants to buy chain-making machinery.

Engine.—The Electric Light & Water Works Co. of Navasota, Texas, wants to buy a 12x24 Corliss engine. Write to Bridges & Holly.

Foundry.—James Chains, care of general delivery, Louisville, Ky., wants to buy chain-making machinery, hammers, tumblers, etc.

Gasoline Engine.—A. D. Allen, Mount Morris, N. Y., wants estimates on a 10-horse-power gasoline engine.

Hardware.—E. E. Titus, Petersburg, Va., wants to correspond with manufacturers of iron horse stalls.

Hose.—Proposals will be opened December 1 for furnishing the city of Austin, Texas, with 2500 feet of best cotton rubber-lined fire hose, coupled up complete; send sample with proposal. R. C. Roberdeau, chairman fire committee.

Iron-working Machinery.—The Southern Iron and Steel Works, Birmingham, Ala., wants to buy lathe for facing columns, punch shear, belting, shafting, air compressor, cranes, wire-working machines, etc.

Iron-working Tools, etc.—The Sunlight Gas Co., George Taylor, manager, Dallas, Texas, wants sheet-iron machinery, tinner's tools, coiled copper and iron pipes, etc.

Laundry Machinery.—W. H. Richardson, Gaffney, S. C., wants to buy laundry equipment.

Oil Mill.—The Meridian Fertilizer Factory, Meridian, Miss., wants to contract for the erection of an 80-ton cottonseed-oil mill.

Rods and Nuts.—W. C. Boren, chairman, Pomona, N. C., wants prices on 12-inch rods, each 33 feet 4 inches long, with threads cut on each end, part of thread left hand; also 12 two-inch nuts, 12 two-inch washers and six 2x12-inch turnbuckles fitted to rods.

Shafting, etc.—Shor. H. Barr, 315 Thirty-sixth street, Newport News, Va., wants a crankshaft with nine-inch stroke and a reversible propeller wheel and shaft; 28 or 30-inch wheel.

Water-wheels.—John C. Reece, Butler, Tenn., wants prices on turbine water-wheels, new and second-hand.

Woodworking Machinery.—Edward L. Jones, care of Crowell Clutch & Pulley Co., Westfield, N. Y., wants literature regarding rotary veneer cutting machines.

Woodworking Machinery.—The Kirkpatrick Fruit & Manufacturing Co., of Jacksonville, Texas, wants catalogues and prices on machinery for manufacturing fruit boxes.

Woodworking Machinery.—J. L. Tallaferro, 2010 Broad street, Richmond, Va., is in need of a chain mortiser and a blind slot ten-ant; new or second-hand.

Woodworking Machinery.—The Fulton Shingle Co., Fulton, Ark., wants to correspond with makers or dealers in shingle machinery; new and second-hand. Address care of J. D. Babblitt.

TRADE NOTES.

A Penwiper.—Messrs. Kendall & Flick, of 618 Pennsylvania avenue, N. W., Washington, D. C., producers of brickmakers' manganese, have issued an attractive penwiper for the office desk.

Murray Engines.—The city of Hannibal, Mo., has ordered from the Murray Iron Works Co., of Burlington, Iowa, a Sioux Corliss engine of 450 horse-power. This is to be installed alongside an engine of similar pattern that has been in continuous operation for some years.

Electric-light Machinery, etc.—The city of Jacksonville, Fla., has awarded contracts as follows for the material and machinery to enlarge its electric-light plant: For electrical machinery, the General Electric Co., of Schenectady, N. Y., at \$9371; to Filer, Stowell & Co., of Milwaukee, Wis., at \$12,500, for Corliss condensing engine; to H.H. Clutch Co., of Cleveland, O., at \$8150, for shafting, and to Charles Munson Belting Co., of Chicago, for belting, at \$2615.32.

Cement Works, etc.—The James River Cement Works, of Locher, Va. (successor of Locher & Co.), has added some new features to its regular cement business. Nova Scotia plaster and pure raw bone meal, cornmeal, mill feed and barrels now constitute a part of the company's product. With ample power and increased facilities for the manufacture of the goods mentioned, correspondence with buyers is invited.

Cotton-mill Machinery Works.—A consolidation of much interest to cotton-mill owners of the country was that of the Saco Water Power Machine Shop, of Biddeford, Me., and the Pettee Machine Works, of Newton Upper Falls, Mass., announced several weeks ago. The Pettee plant is well known as producing an especially successful new revolving flat-top card, and the Saco Company's line of cotton machinery is equally well known for its merit. James H. McMullan, manager of the Saco Company since 1867, will manage the combined businesses, the capital stock of which has been placed at \$800,000.

Cotton-mill Machinery.—The Pettee Machine Works, of Newton Upper Falls, Mass., has been doing a large amount of business in its revolving flat-cards and drawing frames, and at the present time is setting up machinery at the following mills: Spartan Mills, Spartanburg, S. C.; Indian Head Mills of Alabama, Cordova, Ala.; Avondale Mills, Birmingham, Ala.; Laurel Mills, Baltimore, Md.; Skenandoa Cotton Co., Utica, N. Y.; Naumkeag Steam Cotton Co., Salem, Mass.; Pepperell & Laconia Co., Biddeford, Me.; Arkwright Mills, Spartanburg, S. C.; People's Cotton Factory, Montgomery, Ala., and Johnson & Johnson, New Brunswick, N. J.

The American Ship Windlass Co., of Providence, R. I., Frank S. Manton, agent, has set up in its shop one of its steam towing machines, designed for the medium-size tugs. This machine is very compact and very powerful, being geared five to one, whereas the large towing machines are only geared four to one. It is intended to tow from 3500 to 4000 tons of cargo in addition to the weight of the barges themselves, and is intended to use a 1½-inch diameter steel wire hawser. The castings are all made of the best open-hearth steel, with the exception of the cylinders, to have the machine extremely light and yet as strong and substantial as the large machines. It weighs only five tons. The bedplate takes up on the deck only five feet two inches by five feet eight inches.

TRADE LITERATURE.

Telephones, etc.—In presenting its catalogue to the public, the Telephone Manufacturing Co., of Sumter, S. C., endeavors to show, by actual comparison and results, that the apparatus manufactured by it is superior in many respects to other tele-

phone equipment offered to purchasers. The company manufacturers telephone instruments, switchboards and other telephone appliances.

Rubber Goods.—A descriptive catalogue and price-list is issued by the Revere Rubber Co., of 63 Franklin street, Boston, Mass., with Baltimore (Md.) office at 42 South Charles street. The company's product includes high-grade mechanical rubber goods, and it deals in railroad, mill and fire-department supplies.

Ice and Refrigerating Machinery.—Having been actively engaged for the past ten years in the construction of various forms of machinery for refrigeration and the manufacture of ice, the Murray Iron Works Co., of Burlington, Iowa, is well equipped to give satisfaction to buyers of this class of machinery. The company's catalogue, fully illustrated, describes its machinery and methods at length. Ice plants ranging in capacity from one to 100 tons are referred to.

Steam Gages, Valves, etc.—The complete 1897 catalogue of the Crosby Steam Gage & Valve Co., of 97 Oliver street, Boston, Mass., has been issued. The special features of this catalogue are facts relating to the Crosby indicator, spring-seat valve and the Crosby recorders, especially the mine and draft recorders, on page 63. The gage-boards, on pages 50 to 55, made in black, Knoxville and white marble, are also new features. The catalogue is fully illustrated, with details of the different goods, and is bound in cloth covers.

Ice-machine Catalogue.—In the pages of the new catalogue of the Fred W. Wolf Co., of Chicago, Ill., an endeavor is made to give succinctly a few matters of general interest concerning mechanical refrigeration, and particularly a clear and concise description of the Linde ice and refrigerating machine and system. Considering the utmost importance of the duty constantly required from the refrigerating part of a system using such service, and the decided loss entailed by the failure to perform that required duty, it is true economy to purchase a machine that at all times can be depended upon. The makers of the "Linde" machine claim that its twenty-five years' of successful service to over 3000 patrons has practically demonstrated its durability, reliability and economy by years of satisfactory serviceability. Catalogues, illustrated and replete with particulars, are furnished on application.

ALASKA'S GOLDEN RICHES.

The Coming Metropolis of the Territory and Railway Route to the Heart of the Klondyke—An Enterprise Promoted by Men of the Highest Standing.

The announcement in a recent issue of the Manufacturers' Record that a company has been formed to locate a town at Snug Harbor, on Cook's Inlet, which is to be one of the terminal points of a railroad line direct to the heart of the Alaska gold fields, has already aroused intense interest among would-be investors, capitalists and prospectors, while the public at large is also discussing the subject.

From time to time wonderful gold discoveries have been reported in various parts of the world. About every country on the globe has been reported as possessing an El Dorado where the precious metal has been found by the handfuls, and where one could pick up nuggets of untold value here and there. The discovery of gold in California nearly a half century ago started what might be called a gold fever, which has affected the American people ever since. Unscrupulous adventurers have taken advantage of these reports, and many have been imposed upon, with the result that millions of dollars have been wasted in prospecting in barren lands, and many lives have been lost in the same quest. Unfortunately, too, the false reports of gold discoveries and the lamentable results which have arisen from exploration of these alleged fields have caused a deep-set feeling of distrust to pervade the mind of the public. When it was announced that large quantities of gold had been actually obtained from the Alaskan fields, the report was received with incredulity, and few imagined that the statements were anything more than imaginary, but the arrival of the miners with loads of the precious metal, carried in sacks, cans and other receptacles which might be most convenient, has confirmed these statements, and the latest accounts from reliable sources would indicate that the estimate of the quantity

of the precious metal has been underestimated rather than overestimated.

Men of high standing, such as Eli J. Gage, son of the Secretary of the Treasury; Michael Cudahy, the millionaire packer of Chicago, and others equally as reliable, have visited the region and have examined for themselves its prospects. They fully confirm all previous reports, and believe that the extent of the gold fields cannot at present be estimated and that they far exceed in dimensions any territory yet discovered in the world, while their richness is simply incalculable. There is no question but what the feeling is now general that Alaska is truly an El Dorado and that investments of capital, if made in legitimate enterprises in that section, will result in liberal returns.

It is to be expected, therefore, that many companies will be organized on paper to secure the attention of would-be investors, and that associations of irresponsible parties will undoubtedly endeavor to bring about schemes for the development of Alaska gold fields to the notice of the public generally. Consequently, it is very opportune that the Northern Pacific & Alaska Mining, Transportation & Trading Co. has made public its plans thus early in the agitation, as the names of the gentlemen who are interested in it guarantee beyond doubt its responsibility and high standing as a legitimate corporation. It has been extremely fortunate in its choice of a terminal point and a route to the gold fields. The experience of miners and prospectors show that the present methods of travel are extremely dangerous and totally inadequate, that the way by St. Michaels is the Yukon is extremely precarious and that the journey can only be made at a very large expense. But even were these obstacles absent, the fact remains that only a few months in the year can the travelers go by these routes, as the rigorous Alaska winter is liable to block the passage early in the season, rendering it utterly impossible to reach the gold fields before late in the following spring. The daily press is full of accounts which prove this condition of affairs to be true. Therefore, the conveyance to the gold fields proposed by this company by rail presents only the difficulties originally incident to railway construction, as the right of way has been examined and approved by competent engineers. Much of the proposed railway line goes through a section of the country where prevails a comparatively mild climate; in fact, so mild that the land can be used for farming and grazing purposes. As stated in a previous article, the route from points on the Pacific Coast to Cook's Inlet is by the open sea, which is thus available all the year round.

As to Snug Harbor itself, this place is entirely land-locked, has the advantage of water deep enough to float large ocean steamships, and practically combines advantages which will without doubt make it the metropolis of the territory and the principal port of entry for thousands of prospectors who are sure to visit the gold fields, and their supplies. This will insure an immense freight and passenger business, and as the company will practically have a monopoly upon the movement of passengers and freight, its prospective profits would seem to be on a very large scale. It is estimated that the commerce of the adjacent country alone would sustain the town of Snug Harbor, but it will always be the centre of the trade of the whole district besides, with the hunters, sealers and fishermen, as well as miners. It is calculated that \$100,000 worth of goods laid down at this point will return fully \$250,000 when sold to the miners and other residents. This allowance is 10 per cent. on the company's capital.

Expert examination shows that every one of the streams entering Cook's Inlet are gold-bearing to a certain extent. These streams are practically innumerable and form the best indications that the mountains, subjected to the action of the elements for possibly thousands of years, have been depositing their precious debris in the streams. This would indicate that the quartz veins, of which many have been discovered, must underlie the placer fields. Already many witnesses have returned to the United States to tell of the richness of the Cook's Inlet placer diggings. As an indication of their extent and value it is stated that in one mountain, at the foot of which a quartz mill is to be erected, outcroppings of gold-bearing quartz are to be seen for a distance of 800 feet and extending to a depth of 3000 feet. It is proposed to tunnel the mountain at the millsite, and thus extract the ore at a minimum expense. One of the corporation's mining experts who has examined the surface croppings estimates them as carrying from \$11 to \$12

per ton. As gold veins increase in richness in proportion to their depth, at the mill level there is every reason to believe that they must be of the greatest value. But in addition to the high-grade ore, there are large quantities of what are known as the low grade, which will also be treated by the company in a mill which will have a capacity of 300 tons daily, operating 120 stamps. It is calculated that this plant alone will yield \$3000 worth daily of the precious metal.

But while the company has been fortunate in securing gold-bearing property, particularly at this town site, it represents only a portion of its holdings. In the Copper river, Cook's Inlet and the Yukon districts it has already secured over 1000 acres of the richest placer claims. Some of those already opened up have resulted in paying out \$14,000 in thirteen days, although but two men were at work upon them. This is an indication of what may result in employment of properly directed labor and the use of modern mining machinery.

Relative to the richness of the Klondyke and the neighboring fields the following description by a well-known authority will prove interesting:

"The greatest mines of earth are yet to be opened in this far-western land of miracles and wonders. Mountains of gold and silver ore, beside which all the famed riches of Ophir and of Ind, of Golconda and the Comstock lode, will some day sink to beggars' pence, yet rear their proud heads to heaven, untouched by pick or spade or drill. The veritable treasure-houses of the genii and the gods yet await the enterprise and muscle of the sturdy prospectors and miners, who are destined to fire the avarice and the envy of the world with their Midas-passing wealth of solid ducats. From Alaska to Nicaragua the whole vast system of Rocky Mountains and Cordilleras is an almost unbroken ore and mineral bed. Although, since the days of the Montezumas and the Incas, thousands of millions have been taken from it, not one ten-thousandth part of it has ever felt the tap of a prospector's hammer. The surface dirt is hardly broken, the glittering hoards are scarcely touched. The great bonanza fortunes are yet to be won! The big booms are yet to come!"

"The prophecy has been and is being marvelously fulfilled. It is having at least a threefold fulfillment. The Baker City region of Eastern Oregon, and the Kootenai country of British Columbia, have boomed, and are booming; the great mines are increasing their production and their dividends; mines, that were bought for a song, a cayuse or a jug of whisky, are being sold for hundreds of thousands of dollars; new discoveries are being made, and new mines opened up, with every passing day, and a new era of grand and growing prosperity has dawned on all the camps. The Le Ro mine in Kootenai, which sold a few years ago for twelve dollars and a half—\$12.50—has increased its monthly dividends from \$25,000 to \$50,000—or \$600,000 a year. The Bonanza mine, near Baker City, control of which was offered in Portland five or six years ago for \$2200, has recently been sold for \$750,000. Scores of sales have been effected at smaller prices, machinery is being rapidly enlarged and improved, exploration and development are being pushed as they never were before. But, with all their rush and riches, they have been well-nigh eclipsed by the third section, or division, or factor, of this wondrous three-fold fulfillment of a boom prophecy—which promises to surpass all former gold booms, and to add almost incalculably to American wealth.

"The Klondyke is a region till recently unheard of, that has swept like a golden cyclone to the front of all the world's talkers of El Dorados. It has within a few days, or a few weeks at most, become the centre of universal interest and attention. The Klondyke, the Klondyke, is on the tongues and pens, the telegraph wires and typesetting machines of all creation. The names of the Klondyke, the Yukon and Alaska, like England's drum-beat, 'resound around the globe.' In every land and every language of earth men chatter today of gold dug out and washed out by pounds and hundredweights by the pauper prospectors of yesterday. They babble, half-crazed, of oil-cans, old bootlegs, shot-sacks and cracker boxes overflowing with gold dust and nuggets. They repeat Aladdin's-lamp stories of \$800 in gold washed from a single pan of sand and gravel; of bags of gold corded up, like stove wood, and of ships coming back to Portland and San Francisco laden with heaps of uncolored yellow gold. All over the United States and Canada, and in many parts of Europe, bands of venturesome Argonauts are organizing to go in search of the Klondyke golden fleece. Every

vessel that sails toward the new-found Land of Gold is jammed with eager fortune-seekers.

"Hon. William Ogilvie, the official surveyor of the British Northwest Territory, in a report to his government from Fort Cudahy under date of June 10, 1896, said: 'From all indications I believe we are on the eve of some magnificent gold discoveries.' From the same place, November 22, he wrote: 'Every report that comes in from the Thron-dluk region is more encouraging than the last. Prospecting on Bonanza creek has only begun, and very rich gravel has been found on the few claims prospected. From \$1 up to \$12 to the pan of dirt is reported, and no bedrock found yet. This means from \$1000 to \$12,000 a day for every man sluicing.' Elsewhere he spoke of the Indians bringing reports of 'another creek much further up, which they call "Too-Much-Gold" creek, where the gold is so plentiful that, as the miners jestingly say, 'you have to mix gravel with it to sluice it,' and he closed with the emphatic declaration: 'One thing is certain—we have one of the richest mining areas ever found, with a fair prospect that we have not yet begun to discover its limits.'

"All later accounts not only justify, but amplify, these statements of a year ago. For weeks past every steamer, every scow, from the golden North has brought back men whose plain, rugged history makes all the fairy tales seem tame and commonplace. They went last fall, or last winter. They come back with thousands, and many of them with tens of thousands of dollars in gold dust and nuggets, and owning claims or parts of claims, from which they expect to take hundreds of thousands, if not millions, more hereafter."

We have already alluded to the fact that the country which will be traversed by the railway to the gold fields has a much more agreeable temperature than that in which the famous Skagway and Chilkoot passes are located. Unfortunately, Alaska in its entirety has been given a reputation which would tend to keep away visitors and travelers except during one or two months in the year. It is popularly supposed to have an Arctic climate, with winter from eight to ten months in the year of the most rigorous kind, and to be a region in which it is almost impossible for a white man to live. While this is undoubtedly true of a large section of the country, and especially the northern portion, it is erroneous as regards the section in the vicinity of Cook's Inlet. The warm temperature of the sea, which is affected by what is known as the Japan stream, gives a warmth to the atmosphere to such an extent that it is stated placer mining can be kept up in this vicinity the year around. In fact, it has been called the "garden spot of Alaska," as farmers are enabled to raise large crops of food supplies, and in what is known as the Sushitua Valley there is a large tract of grazing land especially adapted for live stock. This offers an excellent opportunity for persons who desire to locate in the district and raise supplies to be sold in the mining territory, as well as to the fishermen, for there is no question but what such supplies can be sold at a very high price, resulting in large profits to those who engage in farming and stock raising. An examination of the woodlands in the vicinity of Cook's Inlet shows them to be very valuable, and here is an opportunity afforded timber men to trade in lumber for use in the mining communities, also for ship and boatbuilding purposes. With the completion of the railroad to the mining district farm supplies, lumber and miscellaneous goods can be sent direct and at a very small expense, compared with the present dangerous and very extravagant mode of carrying them across the mountains on the backs of horses and Indians.

As already stated, the names of the Northern Pacific & Alaska Transportation, Mining & Trading Co. are a guarantee of its responsibility to carry out the project which it is promoting. In fact, it is a question if a better selection of men could have been made to promote such a vast enterprise. Mr. Henry Parr, the president, is prominently connected with the firm of L. M. Parr & Son, of Baltimore, who are known throughout the country as extensive grain dealers, and have a reputation second to none. Mr. John K. Cowen, vice-president of the company, has been associated with the Baltimore & Ohio Railroad for a score of years, and is at present the head of this great railroad system. He is noted for his commercial ability and is also an attorney of national reputation. Mr. Christian Devries is president of the National Bank of Baltimore, one of the strongest in the city and in the United States as well. He has also been associated with several prominent industries in Baltimore, and has the

highest reputation as a citizen and business man. With Mr. Devries as treasurer, and Mr. Robert Ramsay secretary, it would seem as if the general officers of the company could not be excelled, as Mr. Ramsay is connected with the extensive shipping firm of Patterson, Ramsay & Co., and has also been honored with the election of president of the Baltimore Chamber of Commerce, one of the city's leading commercial organizations. In Mr. George R. Tingle, the company's general manager, it has selected a prominent and energetic man who also has had the benefit of extensive experience in the Alaska territory, as he was formerly United States Treasury agent at the Fur Seal Islands. Mr. George R. Blanchard is chairman of the Joint Traffic Association of the United States, and occupies a high position in railway circles. Other directors are Hon. Charles J. Faulkner, United States Senator for West Virginia; Hon. Watson C. Squire, late United States Senator for Washington, and Dr. J. T. Royles, of Woodland, Cal., an eminent mining expert. Dr. Royles was the discoverer of the quartz mines at Snug Harbor, and is thoroughly familiar with the territory in this vicinity.

As the interest in the operations of this company will undoubtedly be widespread, it has opened offices in New York, Baltimore and Washington, where further information can be obtained. The New York office is in the Equitable Building, Baltimore office in Firemen's Insurance Building and Washington office in the Washington Loan & Trust Co.'s Building. The Colonial Trust Co. of New York, one of the largest financial corporations in the city, is its registrar of stock, and its depositories are the American Exchange National Bank of New York and National Bank of Baltimore.

POSTAL SAVINGS BANKS

Advocated by Postmaster-General Gary in His Annual Report.

Postmaster-General Gary, in his first annual report, enters into an elaborate argument in favor of postal savings banks. He estimates that many millions of dollars are secreted by people who have little or no confidence in ordinary securities and monetary institutions organized by private citizens, and he believes that if the government undertook the task of providing for the investment of this money and caring for the accumulations of interest thereon in behalf and solely on account of the investors, the latter would gladly accept the service offered them. Their little savings, which separately could hardly be put out at interest, would amount in the aggregate to a sum that could be invested to their advantage. Provision could be made for the withdrawal of deposits in case of necessity or for any other reason, so that to the individual would inure the benefit of the postal exchange and the increment of interest arising from the investment, and to the country would accrue the benefit of the circulation of capital hitherto unused and in that sense useless. Another suggested advantage is the cultivation of thrift.

Against the objection that the scheme is impracticable, because this country has not enough national debt to absorb the hidden savings of the people, Mr. Gary says that there is sufficient debt, if it should be used for that purpose, to afford investment for such savings during the next ten or fifteen years, after which the wisdom gained from experience may be safely intrusted with the problem of finding other fields of investment in this great and growing country. He advises a low rate of interest, and adds:

"It is a matter of daily occurrence in courts of chancery for orders to issue directing guardians and trustees to invest the moneys of widows, orphans and other wards in the bonds of States, counties and municipalities, and even in real estate. If these channels of investment could be judiciously opened to the proposed savings they would furnish an

illimitable field for the accumulations of the future.

"A suggestion made by several of my predecessors is that a part of the postal savings could be profitably devoted to the erection of public buildings for the use of the government. Perhaps at no time in the history of the government was the necessity for such buildings so great as at present."

ROUND COTTON BALES.

How the Opposition to It Is Regarded in Dixie.

In the October number of Dixie is a characterization of the opposition to the improved round-baling process as follows: "The politician or editor that takes up the cause of the 'downtrodden farmer' is very apt to run himself into a corner before the game ends; and it is not difficult to understand the cause. The farmer is not downtrodden, and the men who seek to put him in that false position are mere blatant demagogues. Truth may be defeated for a time, but it will bob up again, brighter than ever. The papers that have been crying out against the 'middlemen' and bewailing the fact that the poor farmer could not sell his cotton direct to the factories now find themselves in a ridiculous position. The New Orleans Times-Democrat has been relentless in its attacks upon trusts and 'sick like' for the reason that they grabbed up the farmers' profits. Now a method has been invented that will do away with much of the expense of baling cotton and will permit the farmers to reap the benefit, so the editor of this paper has transferred his sympathies to the downtrodden 'other fellow.' Dixie then quotes the article of the Times-Democrat showing the economy in handling and adds:

"According to the Times-Democrat, the cylindrical bale is the long-sought-for means of crushing the man that robs the farmer. Why so much grief at the downfall of the compresses, Mr. Editor? These are the men that you have so persistently abused, but perhaps you didn't know that most of the compresses are owned by the railroads. Since when have you had an interest in the welfare of corporations? Inconsistency will expose itself, and the editor that blatantly advocates an anti-capital, anti-corporation, free-trade and free-silver policy must come to grief sooner or later. Principally sooner.

"Since when have we frowned upon invention and improvement for the reason that existing methods would be interfered with? Here is an editor seriously advocating plans to sidetrack an invention that he admits will do away with the present expensive method of baling cotton and revolutionize the entire system of harvesting and marketing our great staple crop. Tell us, Mr. Editor, why it is that the new method will work a revolution. Isn't it because the new is better than the old? You must admit that it is better or else put yourself in the ridiculous position of calling the Southern people a set of simpletons to give up the present system for one that is worse. Well then, admitting that the cylindrical baling system is an improvement, are you such an old fogey that you will seriously advocate that the invention be destroyed and that we continue our present wasteful and barbarous practice of baling? Better return to your first love, the farmer. Don't let your practice of condemning capital lead you into the error of keeping money out of the pockets of the farmers, and don't suggest the unholy idea of destroying an invention because it threatens to revolutionize present methods. Revolutions of this kind depend upon merit, and merit will win. A New Orleans editor can't bottle up merit. Don't try it, brother; something will be sure to 'bust.'

"If the cylindrical bale will revolutionize our present shiftless system of handling cotton, let the revolution come, and come quickly."

FINANCIAL NEWS.

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

No advertisements but those of a financial character will be accepted for this page.

New Corporations.

The Bank of Clinton has begun business at Clinton, La., with D. W. Pipes as president, and H. H. Forrester, cashier.

The Mutual Life Insurance Association has been organized at Richmond, Va., with T. Rothschild, president; R. P. Spindle, vice-president, and W. S. Bradley, secretary and treasurer.

The stockholders of the Bank of Morehead, of Morehead, Ky., have elected S. Bradley, president; M. M. Redwine, vice-president. The bank will open for business January 1, with \$15,000 capital.

The Globe Mutual Insurance Co. of Norfolk, Va., has been organized, with the following officers: S. A. Etheredge, president; E. W. Spivey, vice-president, and John O. Carroll, secretary and treasurer.

The Merchants and Planters' Bank has been organized at Bainbridge, Ga., with \$100,000 capital. The officers are J. D. Harrell, president; A. L. Hawes, vice-president. It is expected the bank will begin business about January 1.

The Home Building and Loan Association has obtained a charter from the secretary of state at Grafton, W. Va., with \$500,000 capital. Among the incorporators are Benjamin F. Poe, W. C. R. Ayers and Geo. W. White, all of Grafton.

New Securities.

The court has approved of the issue of \$100,000 in receivers' certificates to be made by the receivers of the Macon Gas & Water Co. for improvements.

A dispatch from Fort Worth, Texas, states that the people of that city will probably vote on issuing bonds for the construction of water works. Address the mayor.

The town of Aberdeen, Miss., will receive proposals until November 24 for the issue of \$50,000 in bonds for refunding purposes. The mayor will give further information.

The people of Fayette, Mo., have decided upon the issue of \$3000 in bonds for improvements. It is possible that an issue of \$20,000 in all may be made. The town clerk will give further information.

The city council of Charleston, S. C., has decided upon the issue of \$90,000 worth of 4½ per cent. bonds to be made on April 1 next. It is possible that these bonds will be placed on the market about March 20. The mayor will give further information.

The sale of the bonds to be issued by Currituck county, North Carolina, has been postponed until November 22. The issue, which amounts to \$8000, will bear 6 per cent. interest. W. H. Bray, at Currituck, may be addressed for further particulars.

Dividends and Interest.

The Kentucky Wagon Co., of Louisville, Ky., has declared a quarterly dividend of 1½ per cent.

The Second National Bank of Baltimore has declared a semi-annual dividend of 3½ per cent.

The Durham & Northern division of the Seaboard Air Line has declared a dividend of 2 per cent.

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The Dallas Manufacturing Co. (cotton), of Huntsville, Ala., has declared a semi-annual dividend of 3 per cent.
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The result of the annual meeting of the Bank of Laurens, S. C., was the re-election of O. B. Simmons, president; W. E. Nash, vice-president, and J. J. Pluss, cashier. The bank has declared a semi-annual dividend of 4 per cent.
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The United States Electric Lighting Co., in which a number of Washington capitalists are interested, has decided to increase its annual dividend to stockholders from 6 to 8 per cent. The dividend is declared in January of each year.
--

The Owensboro Wagon Co., of Owensboro, Ky., has declared a regular dividend of 5 per cent., and a special dividend of 3 per cent. on the earnings of the last six months. In addition to this the company has reduced its floating debt from the profits in the same period.
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Financial Notes.

The Continental Savings Bank of Memphis, Tenn., has determined to reduce its capital stock to the extent of \$25,000.

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Bailey-Lebby Co. 33	Curtier Mfg. Co. 23	Jackson Mfg. Co. 34	Pancoast, Henry B., & Co. 29	Stevens', H., Sons Co. 36	
Bailey, John T., & Co. 18	Cypress Lumber Co. 8	Jeffrey Mfg. Co. 28	Patitz, A. M. *	Stewart, Jas., & Co. 6	
Baird, U., Machinery Co. 12	D	Jenkins Bros. 36	Paxson, J. W., & Co. 18	Stiles & Fladd Press Co. 8	
Baldwin Locomotive Works. 13	Dallatt & Co. 22	Jewell Belting Co. 11	Peacock, George. 22	Stilwell-Bierce & Smith-Valle Co. 28, 30	
Ball Engine Co. 15	Davis-Farrar Co. 30	K	Peck-Hammond Co. *	Stow Flexible Shaft Co. Ltd. 9	
Baltimore, Chesapeake & Richmond	Davis Foundry and Mch. Works. 1	Kansas City, Pittsburg & Gulf R. R. 29	Pemberthy Injector Co. 36	Struthers, Wells & Co. 14	
Steamboat Co. 29	Davis, G. M., & Son. 8	Keeler, E., Co. 9	Perkins Mfg. Co. 22	Stuebner, G. L., Iron Works. 10	
Baltimore Engraving Co. 1	Davis, Kelly & Co. 22	Kelly, O. S., Co., The. 33	Petree Machine Works. 27	Sturtevant, B. F., Co. 20, 27	
Baltimore & Ohio R. R. 1	Dean Bros. Steam Pump Works. 30	Kelly & Jones Co. *	Philadelphia Bourse. 9	Sturtevant Mill Co. 32	
Baltimore Storage & Light Co. 29	De Kalb, Courtenay. 6	Kendrick Valve & Washer Co. 30	Philadelphia Eng. Works, Ltd. 14	Sullivan Machinery Co. 33	
Barber Asphalt Paving Co. 19	De Loach Mill Mfg. Co. 25	Keystone Crusher & Roller Co. 33	Phila. Machine Screw Works. *	T	
Barnes Mfg. Co. 30	Dempwolf, C. H., & Co. 33	Keystone Drop Forge Co. 8	Perkin Mfg. Co. 22	Taylor, A. W., Land & Lumber Co. 21	
Barnes, W. F. & John, Co. 8	Dietz, Schumacher & Boye. 12	Kilbourne & Jacobs Mfg. Co. 36	Petree Machine Works. 27	Taylor, J. H. 22	
Barnett, G. & H., Co. 36	Diaston, Henry, & Sons. 1	Kilburn, Lincoln & Co. 26	Philadelphia Bourse. 9	Taylor, Jas. Knox. 19	
Bates's, James, Sons. 8	Dixon, Jos., Crucible Co. 36	Knowles Loom Works. 27	Philadelphia Eng. Works, Ltd. 14	Thompson, J., & Sons, Mfg. Co. 17	
Bay Line. 29	Dopp, H. Wm., & Son. 2	Knox, Henry E., Jr. 6	Phila. Machine Screw Works. *	Toledo Machine & Tool Co. 12	
Beach, H. L. 24	Dow Wire Works Co. 24	L	Philadelphian Bourse. 9	Toomey, Frank. 21	
Beckley, A. J., & Co. 33	Draper Co. 18	La Follette Land & Improv't Co. 21	Philadelphia Steel Roofing Co. 23	Tower & Wallace. 6	
Benjamin, O. P., Mfg. Co. 31	Draper Machine Tool Co. 12	Lagonda Mfg. Co. *	Perce-Crouch Engine Co. 16	Trenton Iron Co. 18	
Berryman, James. *	Dufur & Co. 24	Lambert Gas & Gasoline Eng. Co. 16	Piqua Copying Machine Co. 10	Trevor Mfg. Co. 24	
Bertsch & Co. 24	Dunbar, R., & Son. 33	Lambert Hoisting Engine Co. 14	Pittsburg Locomotive Works. 13	Tudor Boiler Mfg. Co. 15	
Besly, Chas. H., & Co. 36	Dunning, W. D. 19	Lane Manufacturing Co. 24	Pittsburg Plate Glass Co. 23	U	
Bethlehem Iron Co. 13	E	Lang, S. Logan. 20	Pittsburg Tool Steel Co. 18	Union Drawn Steel Co. 29	
Big Four Route. 1	Easton Burnham Machine Co. 27	Lauhlin Mfg. Co. 10	Plamondon, A., Mfg. Co. 21	Union Electric Co. 35	
Big Union Mining Co. 267	Eaton & Burnett College. 34	Leffel, James, & Co. 31	Playford Stoker Co. 15	Union Iron Works Co. 22	
Bird, Wm. M., & Co. 6	Eccles, S., Jr. *	Lehigh Valley Brass Works. 15	P. O. Box L. 20	United Electric Improvement Co. 35	
Birmingham Boiler Works. 9	Eco Magneto Clock Co. 35	Leisenring Mfg. Co. 15	Pomona Terra Cotta Co. 30	U. S. Sanitary Co. 7	
Birmingham Mach. & Fdry. Co. 21	Electrical Engin'ring & Supply Co. 35	Leverett & Co. 21	Pope Mfg. Co. 34	V	
Black Mfg. Co. 35	Empire Paint & Roofing Co. 22	Lidgerwood Manufacturing Co. 9	Porter, H. K., & Co. 13	Valdosta Foundry & Machine Co. 24	
Bliss Co., E. W. 24	Epping-Carpenter Co. 31	Lightning Wage Calculator Co. 18	Poulterer & Co. 21, 22	Vaik & Murdoch Iron Works. 15	
Block-Pollak Iron Co. 22	Etting, Edward J. 21	Link-Belt Engineering Co. 28	Powhatan Clay Mfg. Co. 35	Valley Iron Works. 9	
Boomer & Bochert Press Co. 19	Eureka Fire Hose Co. 11	Lobdell Car Wheel Co. 8	Pratt, N. P., Laboratory. 6	Vanduzen Co., The E. W. 31	
Boston Belting Co. 10	Everson, B. M. 21	Lock Box. 20	Pratt & Whitney Co. 12	Van Noorden, E., & Co. 6	
Bowdon, R. E. 6	Exchange Banking & Trust Co. 20	Lombard Iron Wks. & Supply Co. 9	Pratt & Weir Chuck Co. 36	Van Wie, Irvin. 31	
Bowers, A. L. 20	F	Lorain Foundry Co. 10	Price & Head. 22	Vitrified Wheel Co. 25	
Bowes, F. K. 21	Fals Rivet & Machine Co. 29	Lowell Machine Shop. 26	Priestman & Co. 15	W	
Box 335. 20	Farquhar, A. B., Co., Limited. 24	Lowell Textile School. 1	Providence Machine Co. 27	Wais & Roos Punch & Shear Co. 21	
Bradford Detective Agency. 6	Fay, J. A., & Egan Co. 25	Ludlow-Saylor Wire Co. 24	Pulsometer Steam Pump Co. 30	Walker & Elliott. 20	
Bradford Mill Co. 12	Fay Manilla Roofing Co. 23	Ludlow Valve Mfg. Co. 32	Queen City Printing Ink Co. 1	Warren Chemical & Mfg. Co. 23	
Bradley Pulverizer Co. 33	Fernandina Oil & Creosote Works. 22	Lunkenheimer Co. 36	Queen City Supply Co. 26	Washington State Co. 1	
Bradstreet Company. 29	Fidelity & Deposit Co. of Md. 19	Lyon, A. I. *	R	Waterson, L. E., Co. 19	
Branson Machine Co. 26	Fitzfield Tool Co. 12	Main Belting Co. 10	Rand Drill Co. 15	Watkins & Hardaway. 6	
Brooks, T. H., & Co. 24	Fogg, A. 22	Makepeace, C. R., & Co. 6	Rawson Electric Co. 35	Watson, Benjamin. 22	
Broomell, Schmidt & Co. 8	Foos Gas Engine Co. 17	Manistee Iron Works. 30	Record Printing House. 35	Webster, Warren, & Co. *	
Brown, A. F. 29	Foos Mfg. Co. 32	Marion Steam Shovel Co. 2	Reed, F. E., Co. 12	Weir Frog Co. 35	
Brown, Lucius P. 6	Forsyth, W. D., & Co. 14	Martin, Hy., Brick Mch. Mfg. Co. 19	Reliance Gauge Co. *	Wells Light Mfg. Co. 8	
Buckeye Engine Co. 14	Forsyth, S. C., Machine Co. 25	Maryland Mfg. & Construction Co. 34	Remington Machine Co. 17	West Mir. Co. 39	
Buckeye Iron & Brass Works. 26	Fort Wayne Electric Corporation. 35	Maryland Trust Co. 267	Repsuno Chemical Co. 10	Western Electrical Supply Co. 35	
Buffalo Forge Co. 36	Fossick Co., T. L. 6	Mason Machine Works. 26	Reuter & Mallory. 21	Western Maryland Railroad. 1	
Bureau of Freight and Transportation, Charleston, S. C. 2	Froehling, Dr. Henry. 6	Mason Regulator Co. 31	Richmond Loco. & Mch. Wks. 13	Westinghouse Air Brake Co., The. 2	
Burgess, Chas. S. 20	Fuel Economizer Co. 17	McClave, Brooks & Co. 9	Robbins & Myers Co. 21	Westinghouse Elec. & Mfg. Co. 34	
Burt Labelling Machine Co. 8	Fulton, John. 6	McCoy, Joseph F., Co. 10	Roberts Mfg. Co. 28	Westinghouse Machine Co. 14, 21	
Bushnell, G. H., Press Co. 26	Fulton Steam Boiler Wks. & Fdry. 1	McCully, R. 33	Robertson, Jas., Mfg. Co. 32	Wetherill, Robt., & Co. 15	
Byers, Jno. F., Machine Co. 9	G	McDonald, John, & Sons. 6	Robinson, J. M., & Co. 12	Whaleby, W. B. Smith, & Co. 15	
C	Gallert, S. 21	McDowell, Hamilton. 34	Robinson, Wm. C., & Son. 35	Whitely, W. L. & I. Co. 24	
Cady, C. N. 9	Gandy Belting Co. 11	McGowan, John H.,			